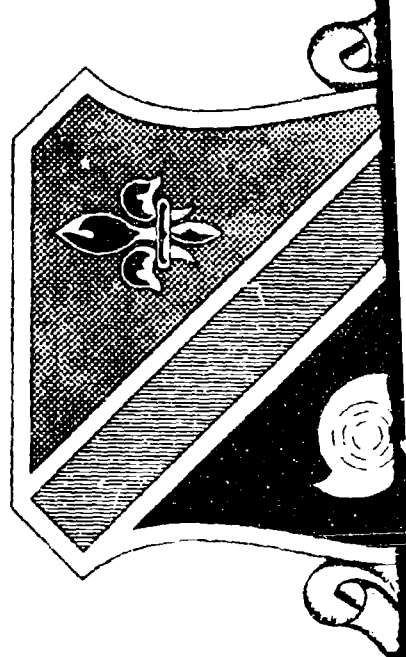


SOUTHEAST ASIA PRECIPITATION ANALYSES





THIS DOCUMENT HAS BEEN APPROVED FOR PUBLIC
RELEASE AND SALE; ITS DISTRIBUTION IS UNLIMITED

ADDC
RECEIVED
DEC 11 1969
A

AD 697751

1ST WEATHER WING
SPECIAL STUDY 105-11P

Produced by the
CLEARINGHOUSE
for
Special Studies
Washington, D.C. 20540

INTRODUCTION

1. 1 Weather Wing Special Study 105-11P, Southeast Asia Precipitation Analysis, contains monthly and annual isoline analyses of six precipitation parameters -- maximum, mean, minimum and 24-hour maximum precipitation amounts in inches and number of days with precipitation and thunderstorms. The analyses are drawn on a 1:5,000,000 base chart.
2. The analyses present mean values only and considerable care should be exercised in their application. Actual observed values at any given time may deviate considerably from the mean. The charts are intended primarily as a planning aid and, due to the limitations imposed by map scale and lack of observational data in many regions, no attempt should be made to utilize them as a source of point data. The main value of the charts is in permitting a rapid comparison of one region with another and/or providing some idea of the absolute magnitude of the various parameters in this area of the world. For further interpretation of the charts and/or additional support in planning, consult your nearest Air Weather Service representative or write to Hq, 1 Wea Wg (1VC), APO 96553.
3. The methodology employed in analyzing the charts gave the greatest consideration possible to the influence of terrain upon each parameter by virtue of overlaying the plotted charts on a terrain map during the analysis. Considering present knowledge of the influence of terrain upon climate and the general paucity of observation stations outside valley or coastal locations, this technique is considered to yield the most accurate possible analysis under the circumstances.
4. The data used in preparing the charts were taken from one or more of the following sources:
 - a. "W" Summaries
 - b. Uniform summaries of surface weather observations
 - c. 1 Wea Wg Forms 80 (Monthly weather summary for supported bases)
 - d. Meteorological data book for Asia - Volume 2 - Philippines, Indochina, Thailand, Burma, Malaysia and India
 - e. Climatic data tabulation (Thailand, Laos, Cambodia, North Vietnam and South Vietnam)
 - f. Special summaries (micro cards)
 - g. Annual resume of weather - Indochina
 - h. Climate of Thailand, North Vietnam and South Vietnam
 - i. The rainfall of Thailand
 - j. Monthly and Annual rainfall of Thailand with departure from normal (for the period of record 1911 to 1960)
 - k. Climatic Brief of Thailand, Laos, Cambodia, North Vietnam and South Vietnam
 - l. 1 Weather Wing Climatic Brief
5. The longest period of record available from each station was always used and usually exceeded 20 years. A breakdown of the number of stations and their periods of record in years for each country is listed below:

FOR LIST FOR 105-11P

<u>MEAN PRECIP</u>				<u>MEAN DAYS PRECIP</u>				<u>MAX AND MTN PRECIP</u>				<u>MAX 24-HR PRECIP</u>				<u>MEAN THUNDER- STORM DAYS</u>			
S.	N.	L	T	C	S.	N.	L	T	C	S.	N.	L	T	C	S.	N.	L	T	C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

1. 1 Weather Wing Climatic Brief

5. The longest period of record available from each station was always used and usually exceeded 20 years. A breakdown of the number of stations and their periods of record in years for each country is listed below:

POR LIST FOR 105-11P

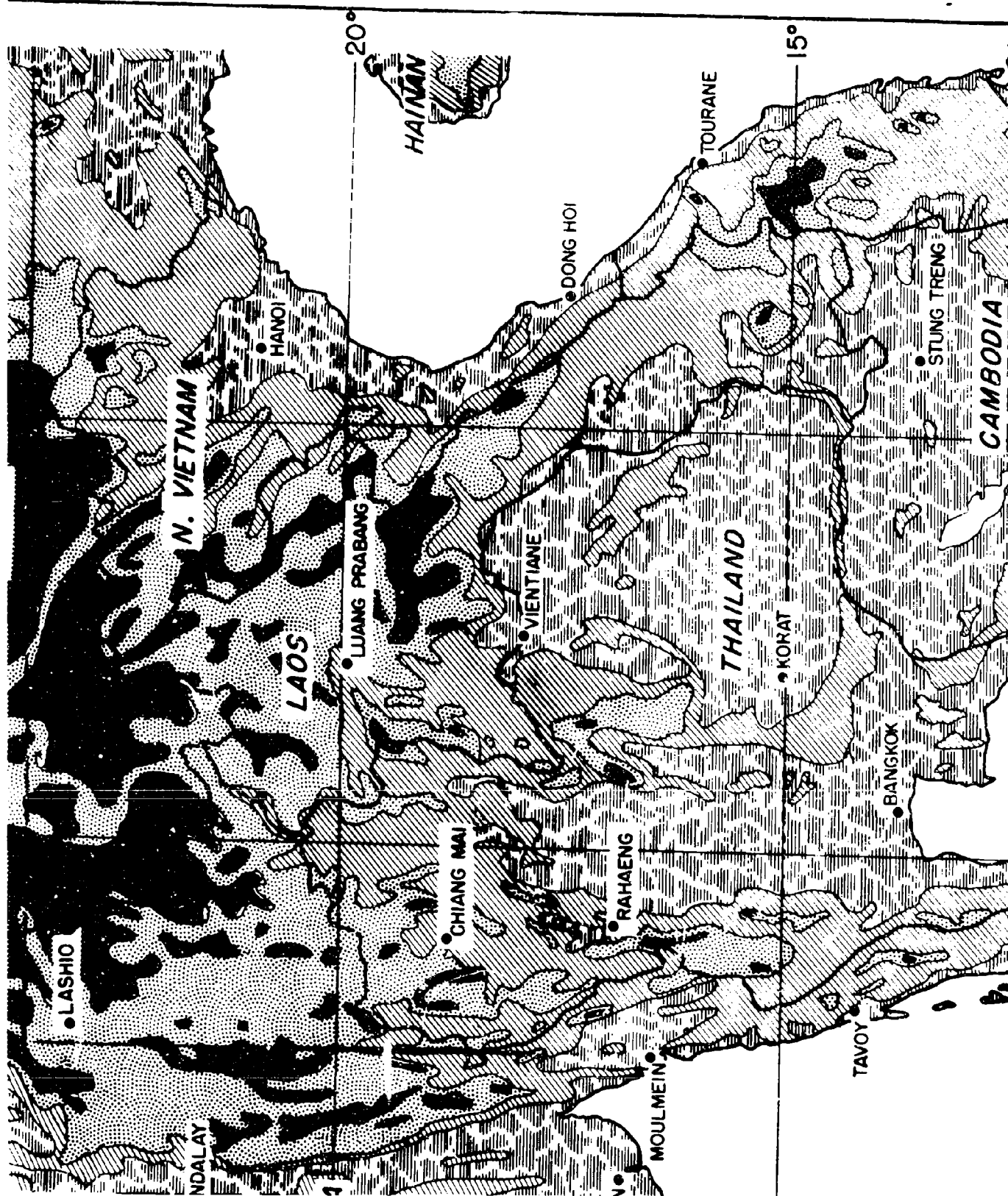
POR	MEAN PRECIP			MEAN DAYS PRECIP			MAX AND MIN PRECIP			MAX 24-HR PRECIP			MEAN THUNDER- STORM DAYS		
	S.	N.	L	S.	N.	L	S.	N.	L	S.	N.	L	S.	N.	L
< 5	2	1	-	1	1	-	1	-	-	1	-	-	7	8	2
5-9	45	6	1	4	3	-	7	1	-	4	3	-	6	1	5
10-19	64	68	32	18	46	9	12	9	6	13	10	6	17	2	-
≥ 20	76	33	5	31	31	9	20	11	9	23	11	9	-	-	17
NA	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1

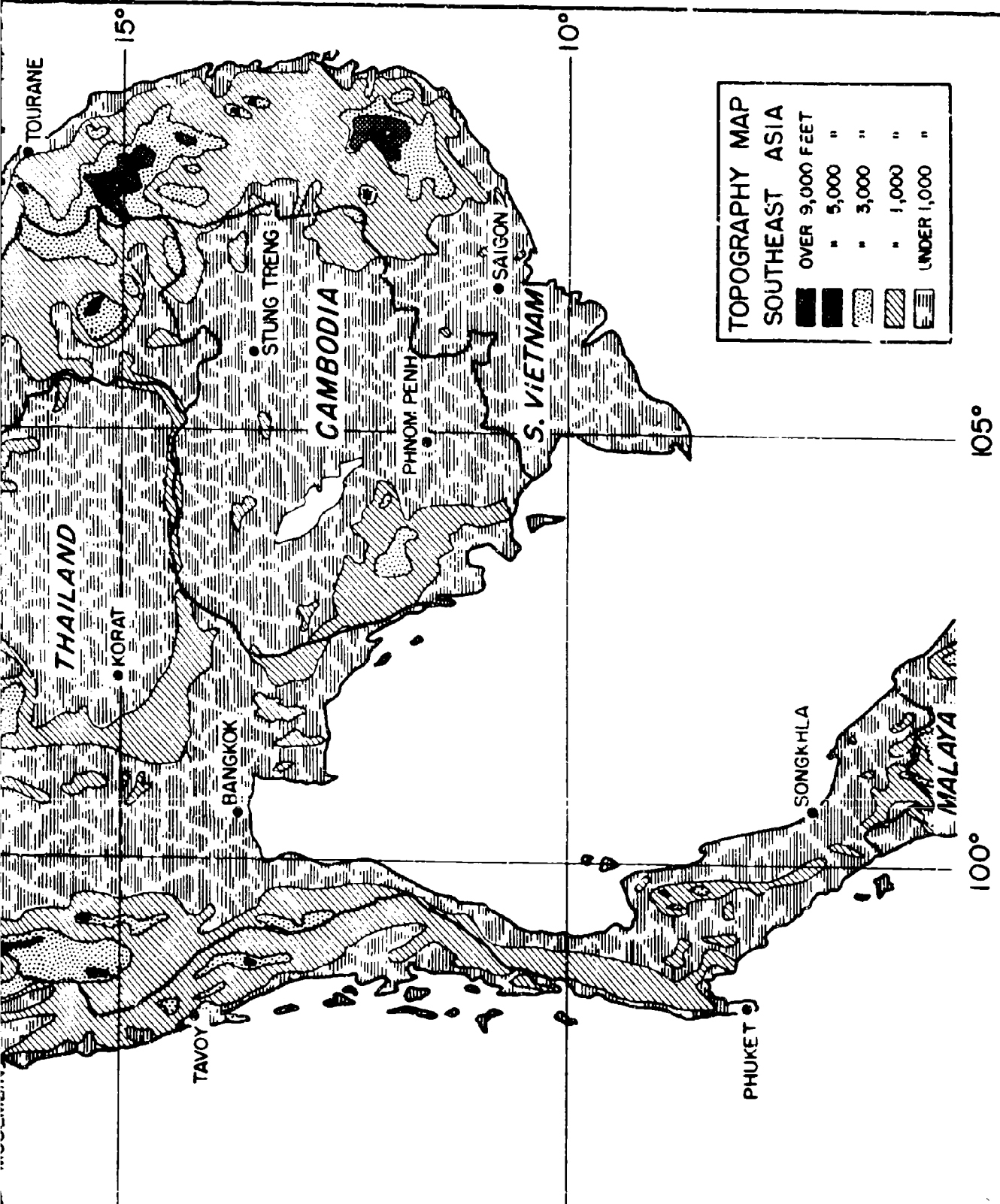
# Sta	187	108	38	88	35	54	81	18	71	28	40	21	15	48	25	41	24	15	47	25	30	12	8	49	6
-------	-----	-----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	---	----	---

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
I	Mean Amount of Precipitation (Annual and monthly)	1 - 13
II	Maximum Precipitation (Annual and monthly)	14 - 26
III	Minimum Precipitation (Annual and monthly)	27 - 39
IV	Mean Number of Days with Precipitation (Annual and monthly)	40 - 52
V	Maximum 24-hour Precipitation (Annual and monthly)	53 - 65
VI	Mean Number of Days with Thunderstorms (Annual and monthly)	66 - 78

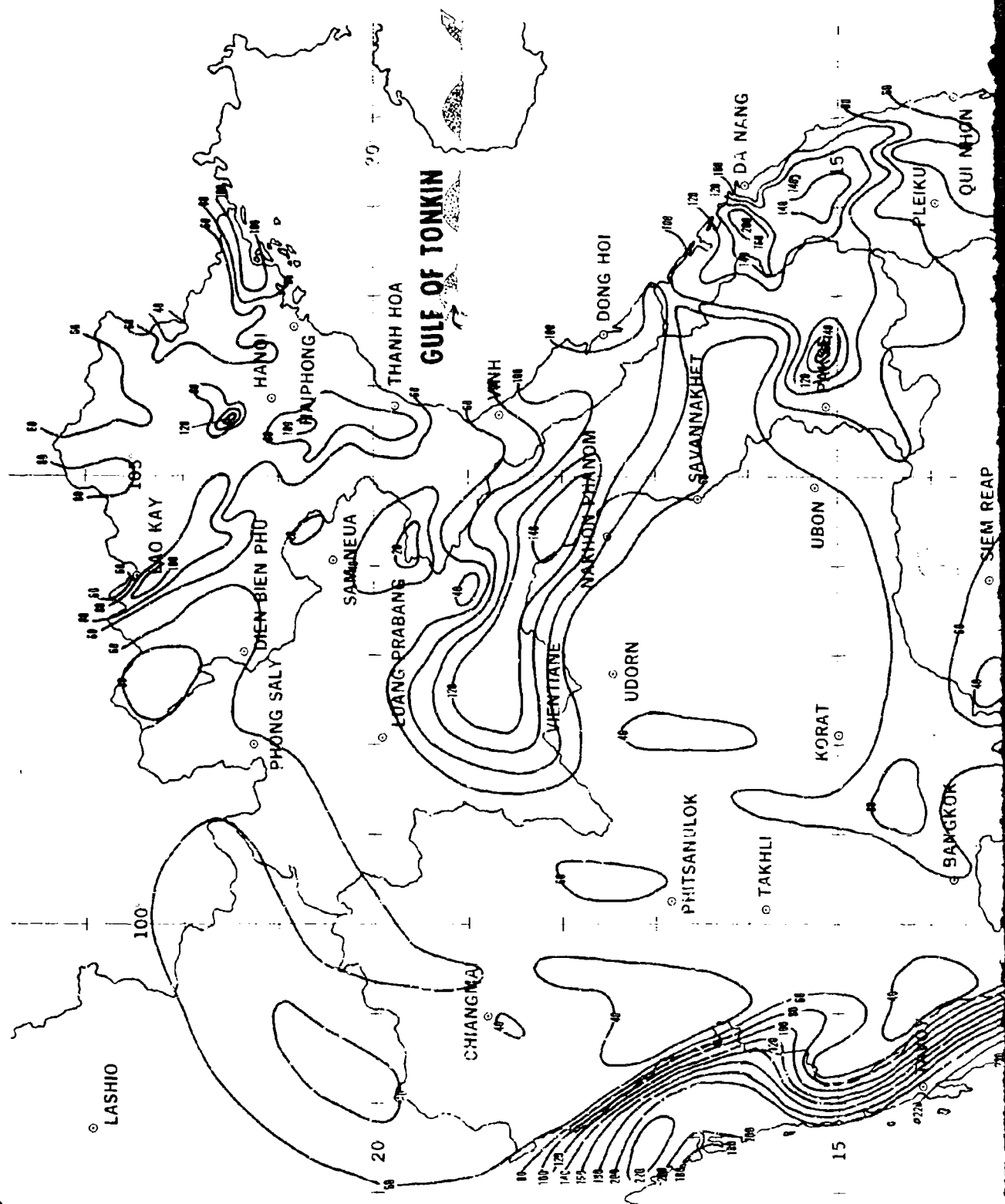
5

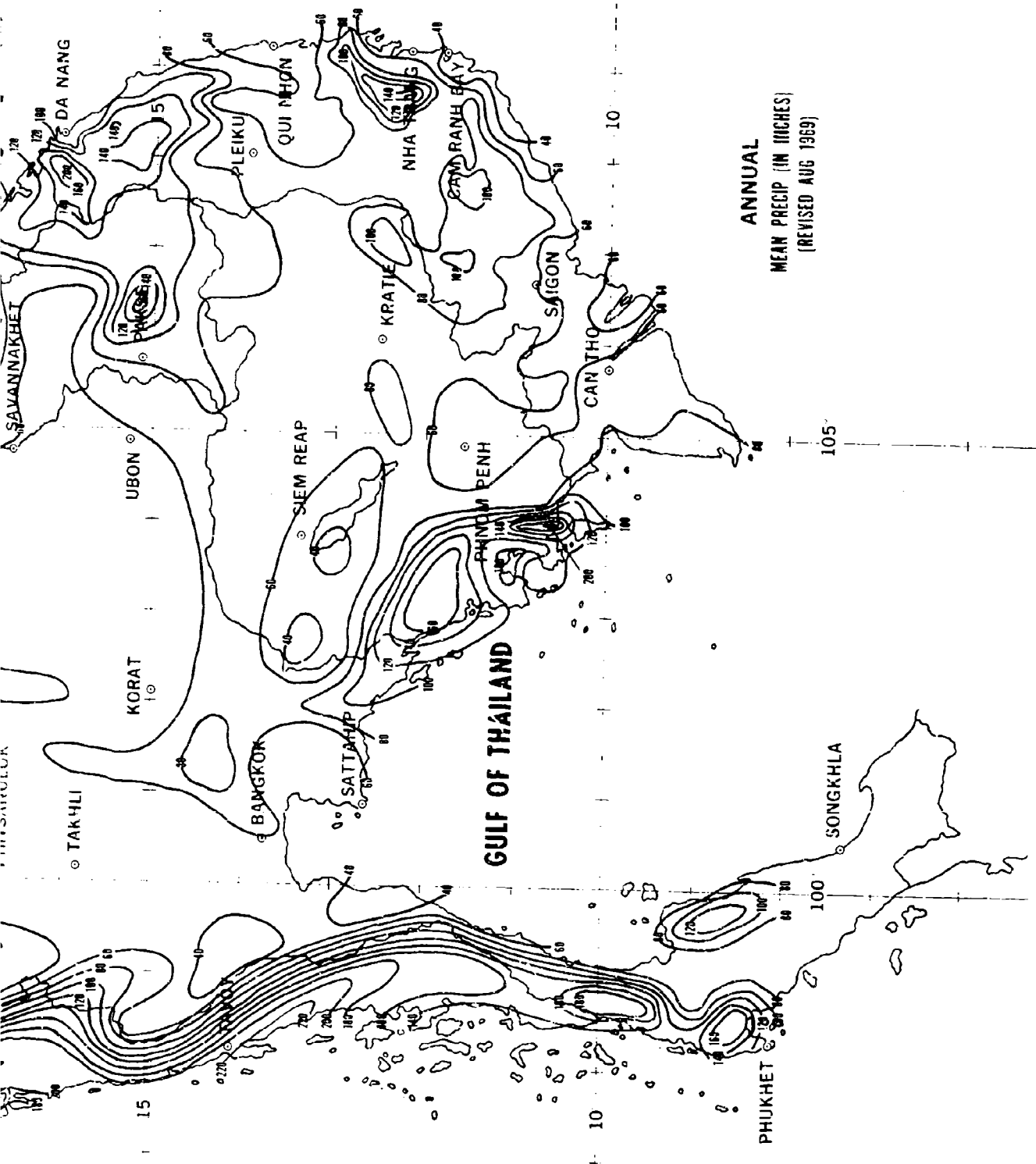


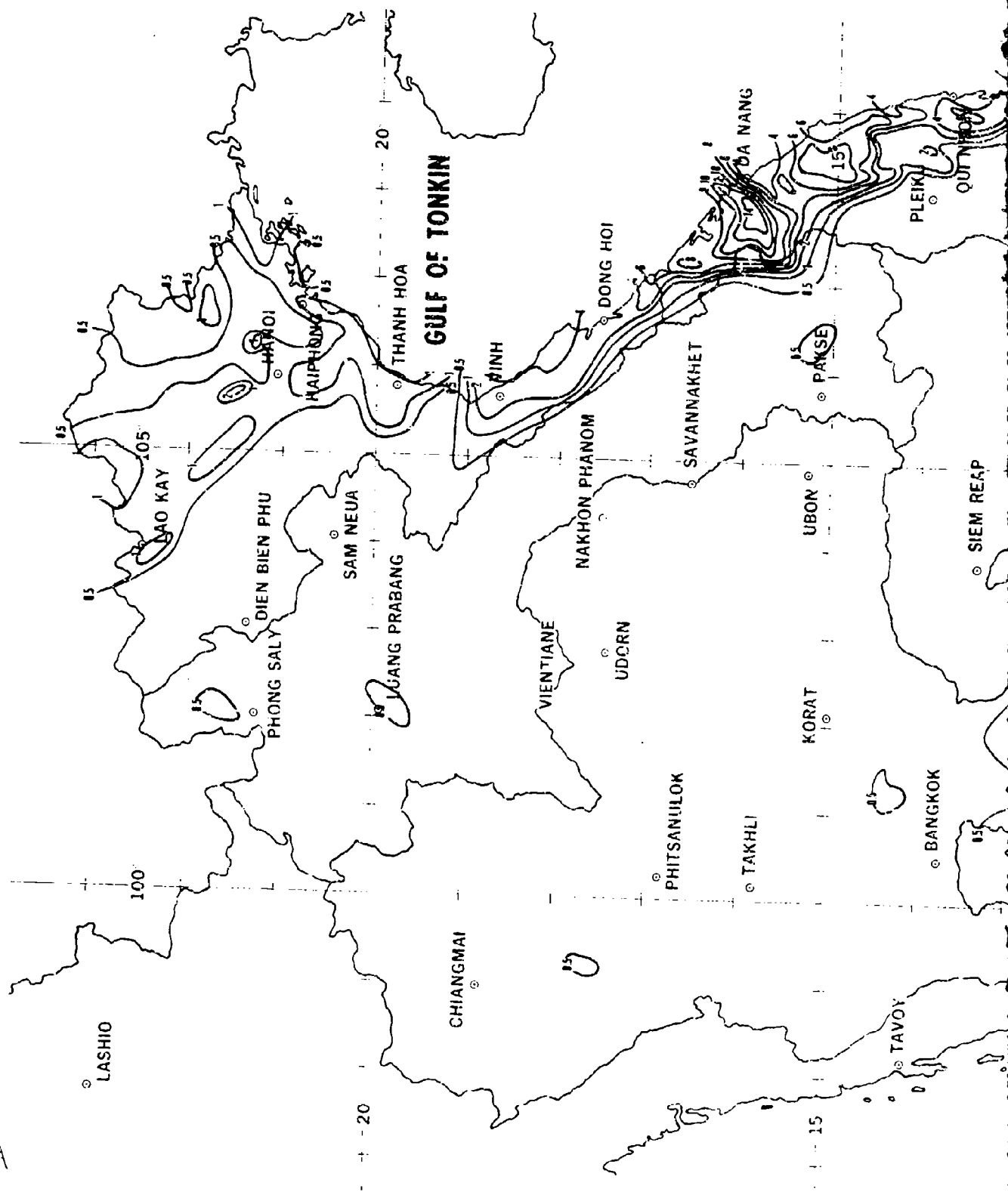


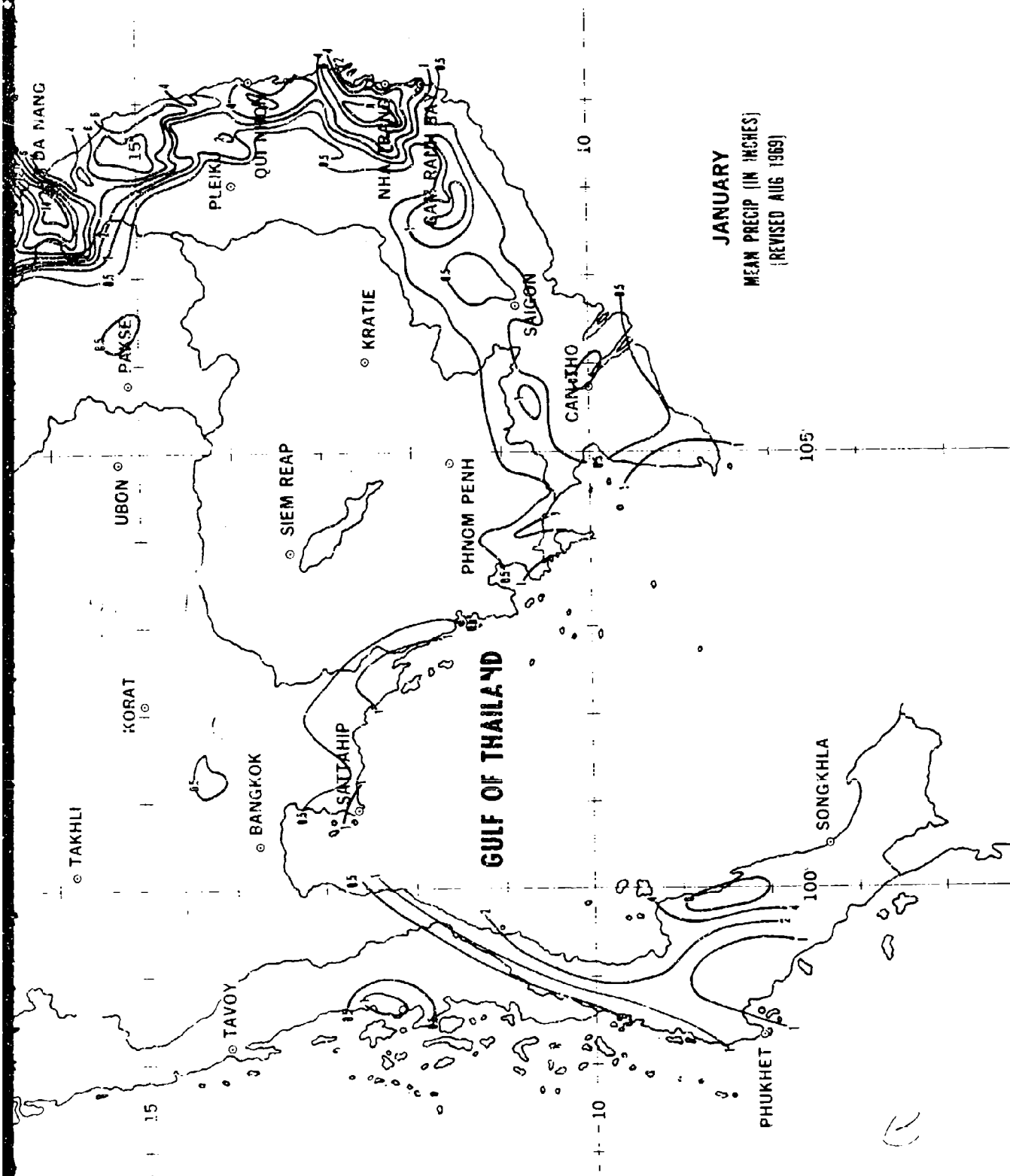
SECTION I

**MEAN AMOUNT OF
PRECIPITATION**

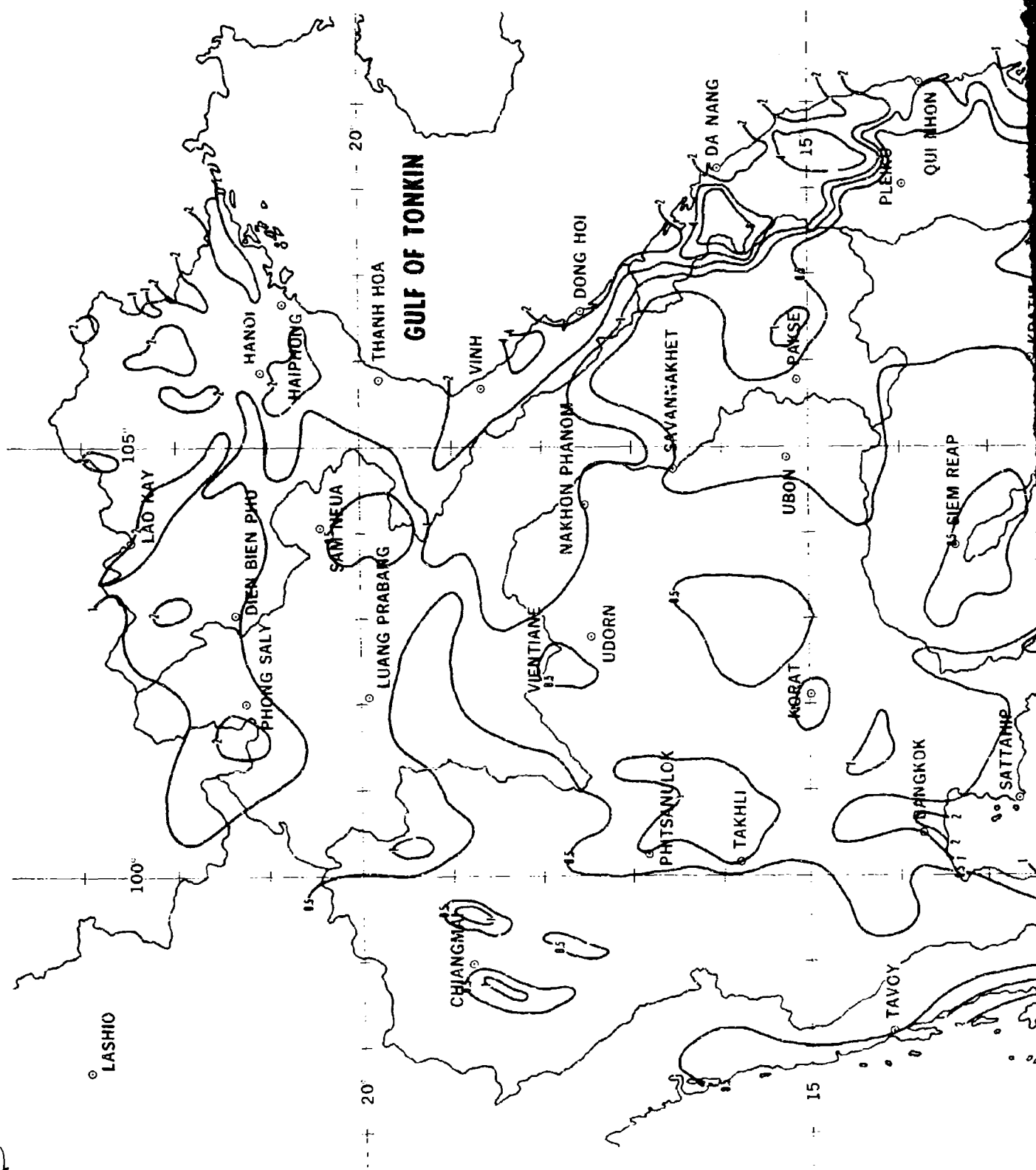


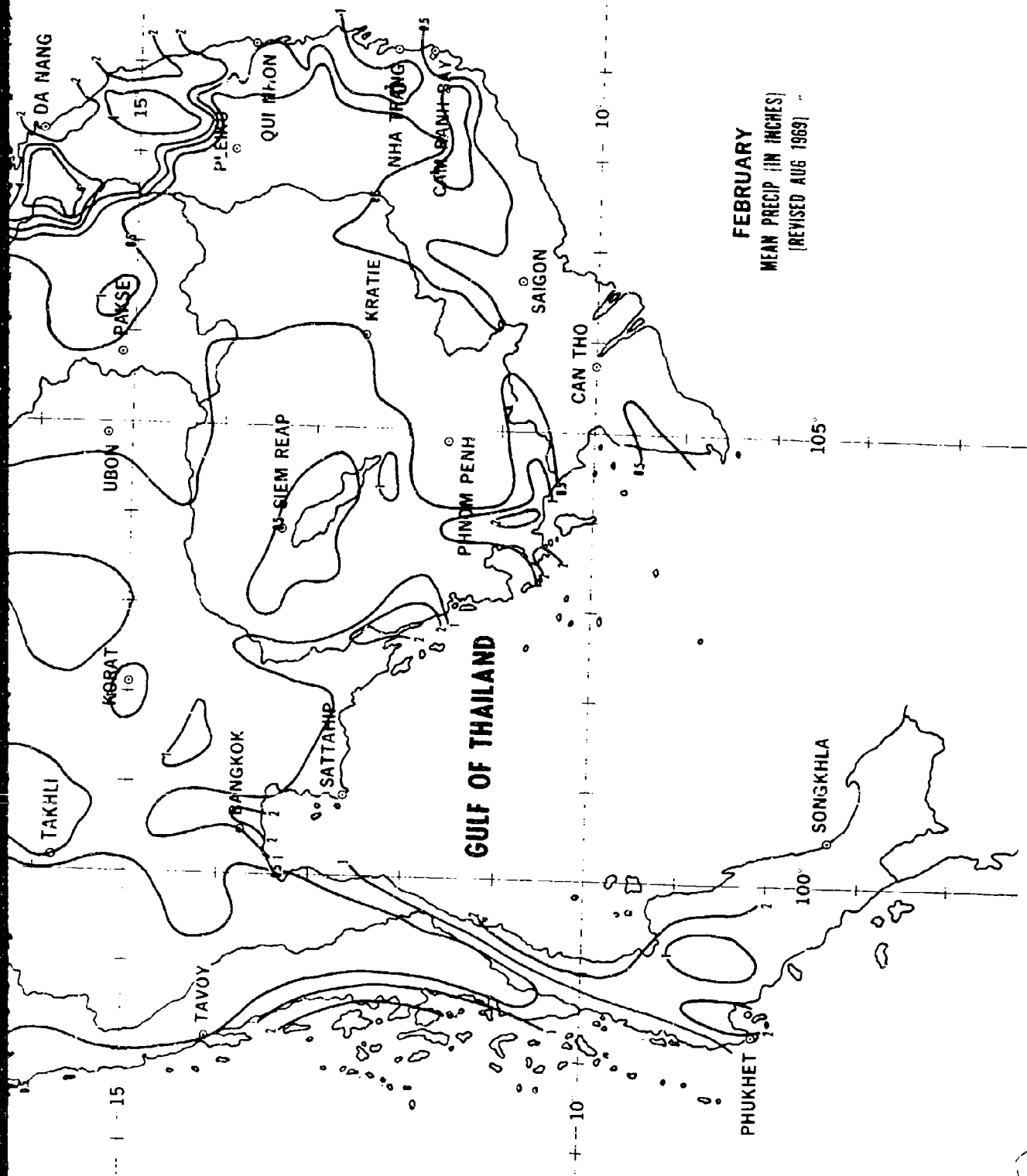




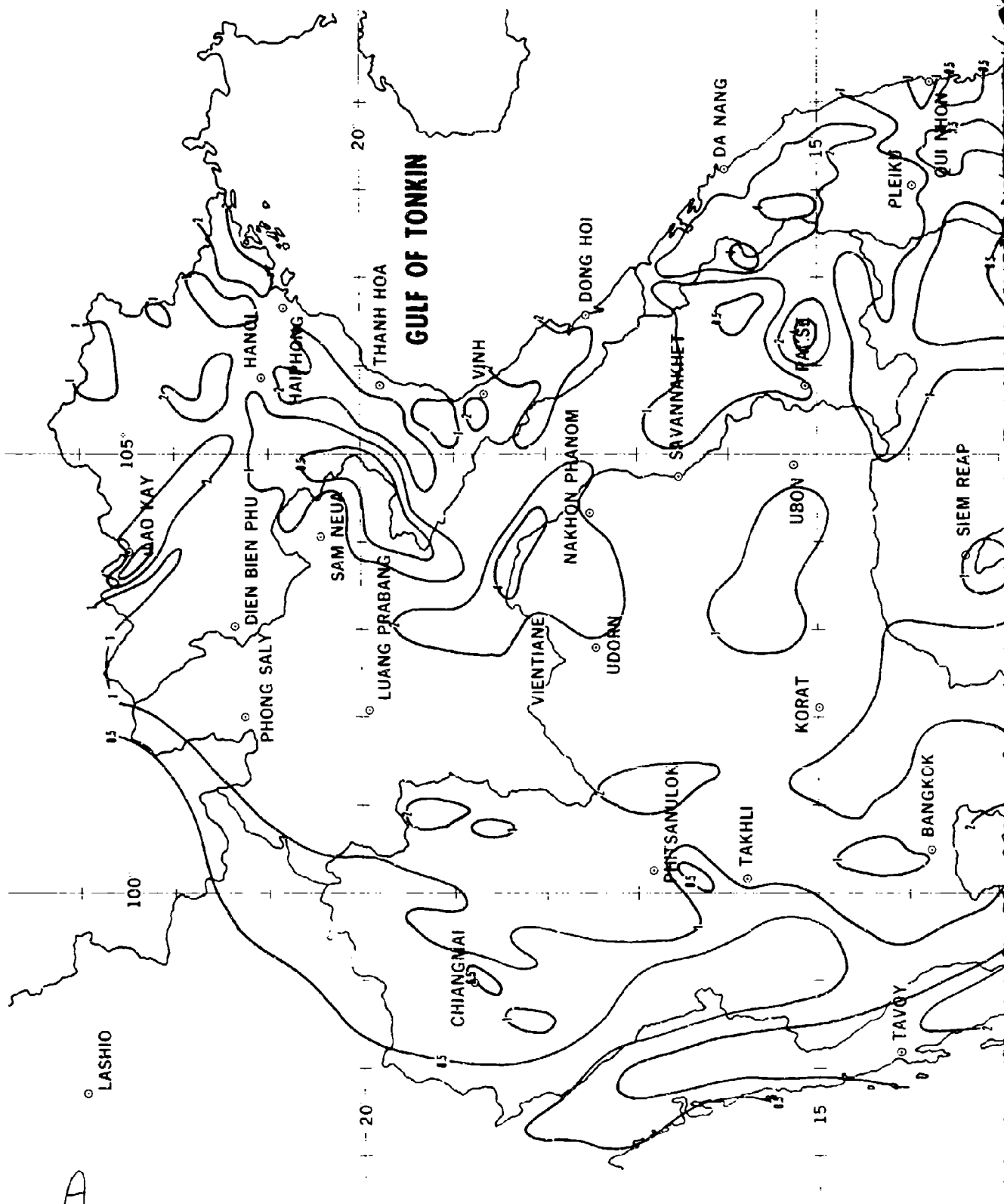


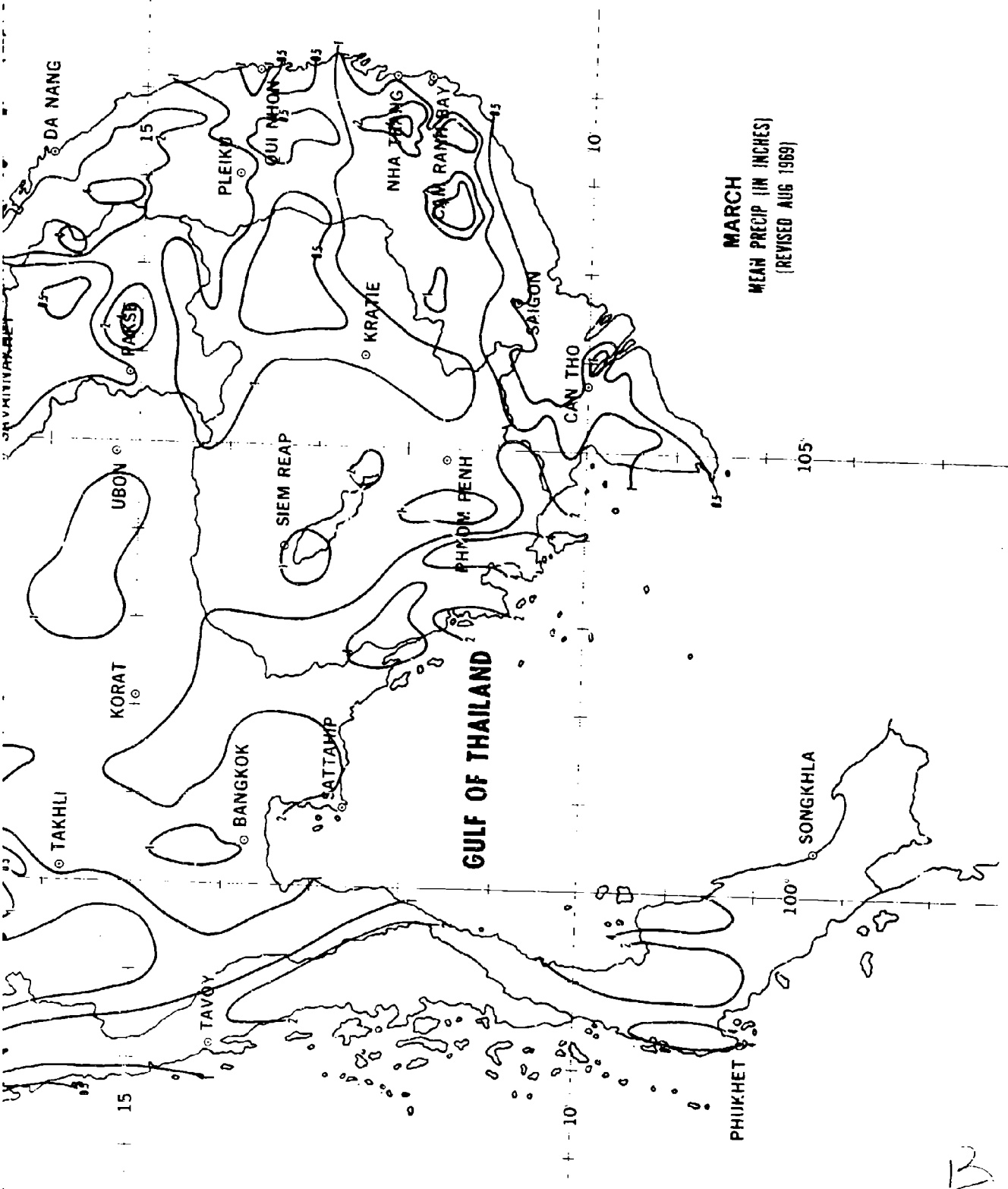
JANUARY
MEAN PRECIP (IN INCHES)
(REVISED AUG 1969)



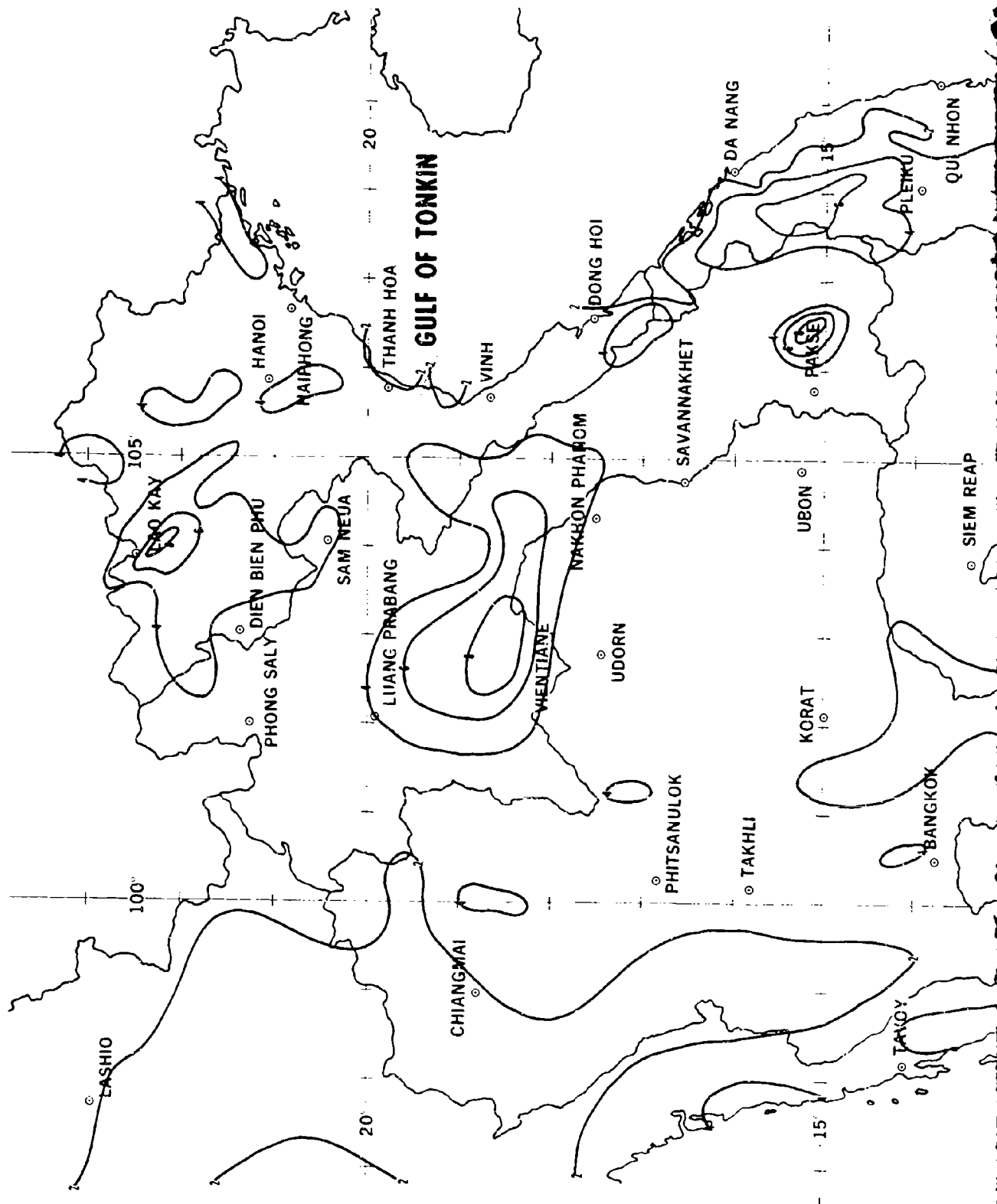


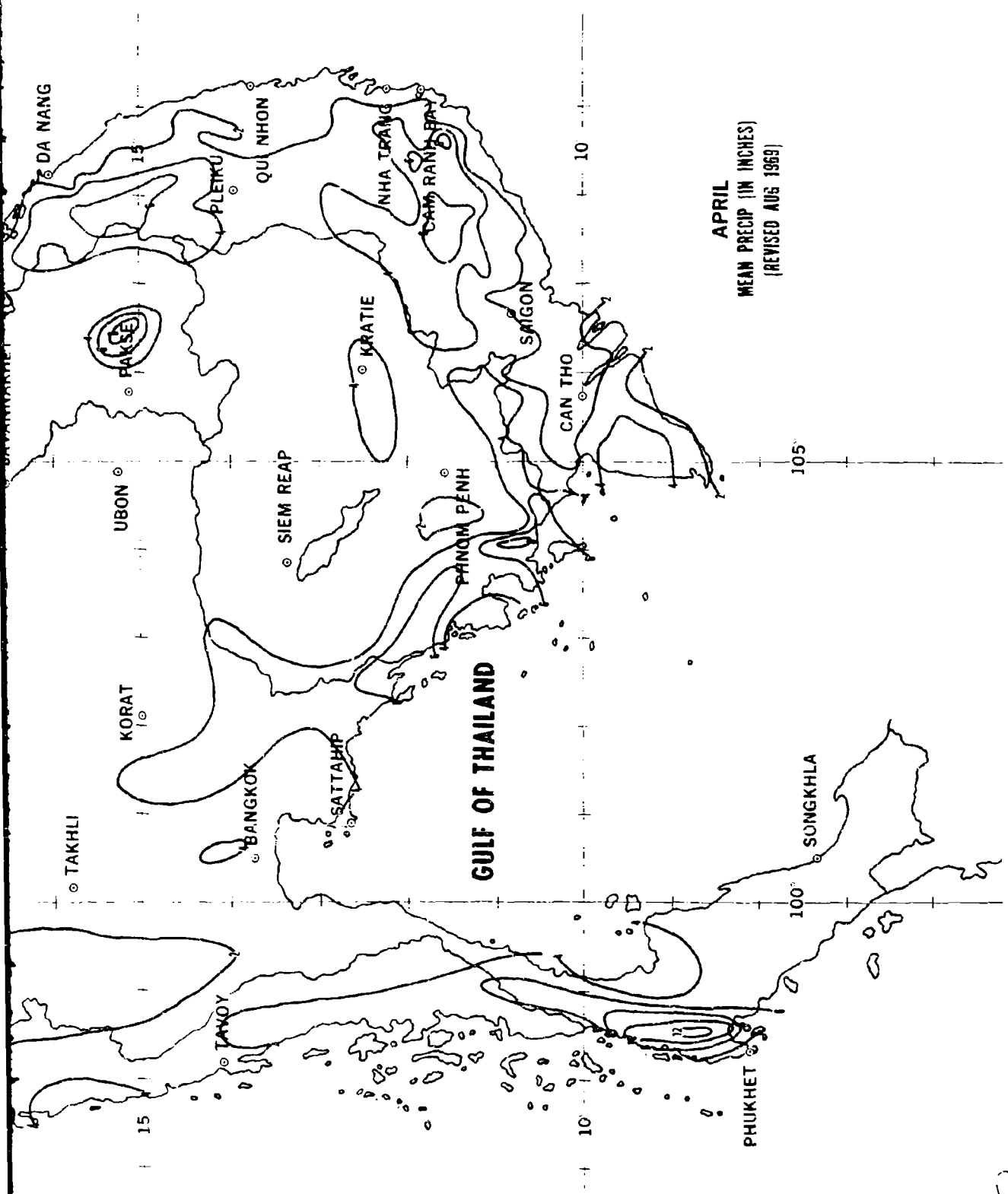
FEBRUARY
MEAN PRECIP (IN INCHES)
 (REVISED AUG 1969)





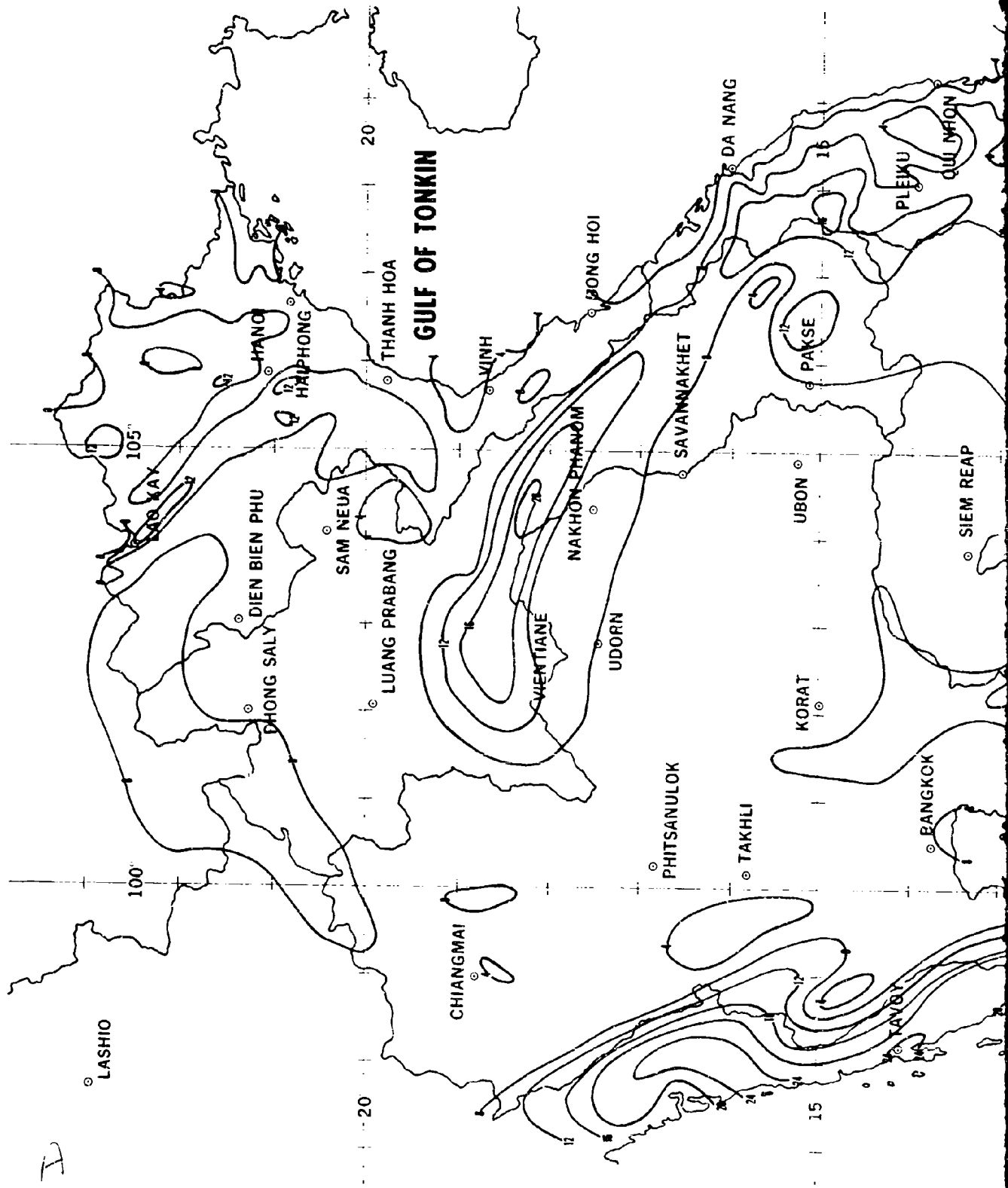
D

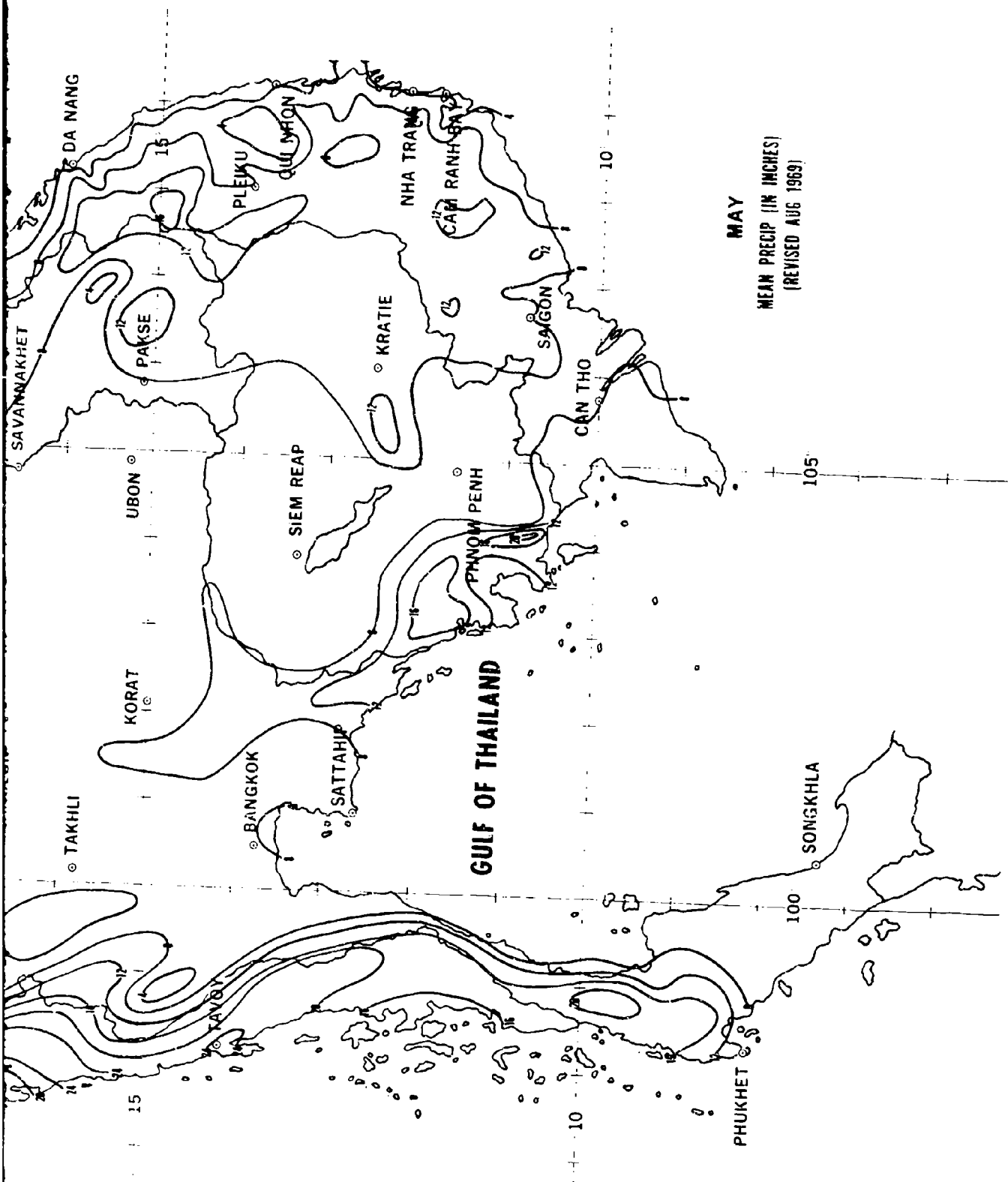


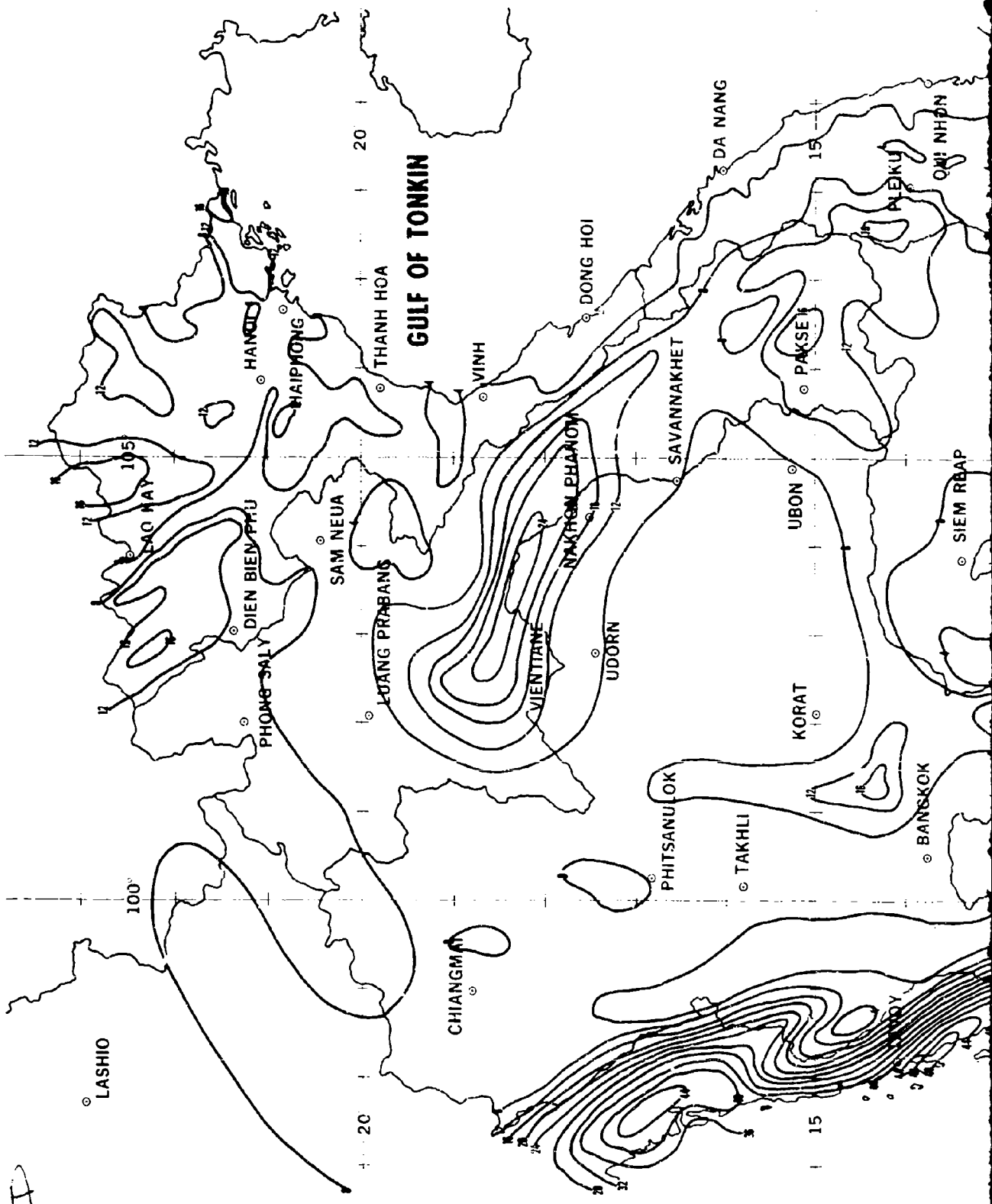


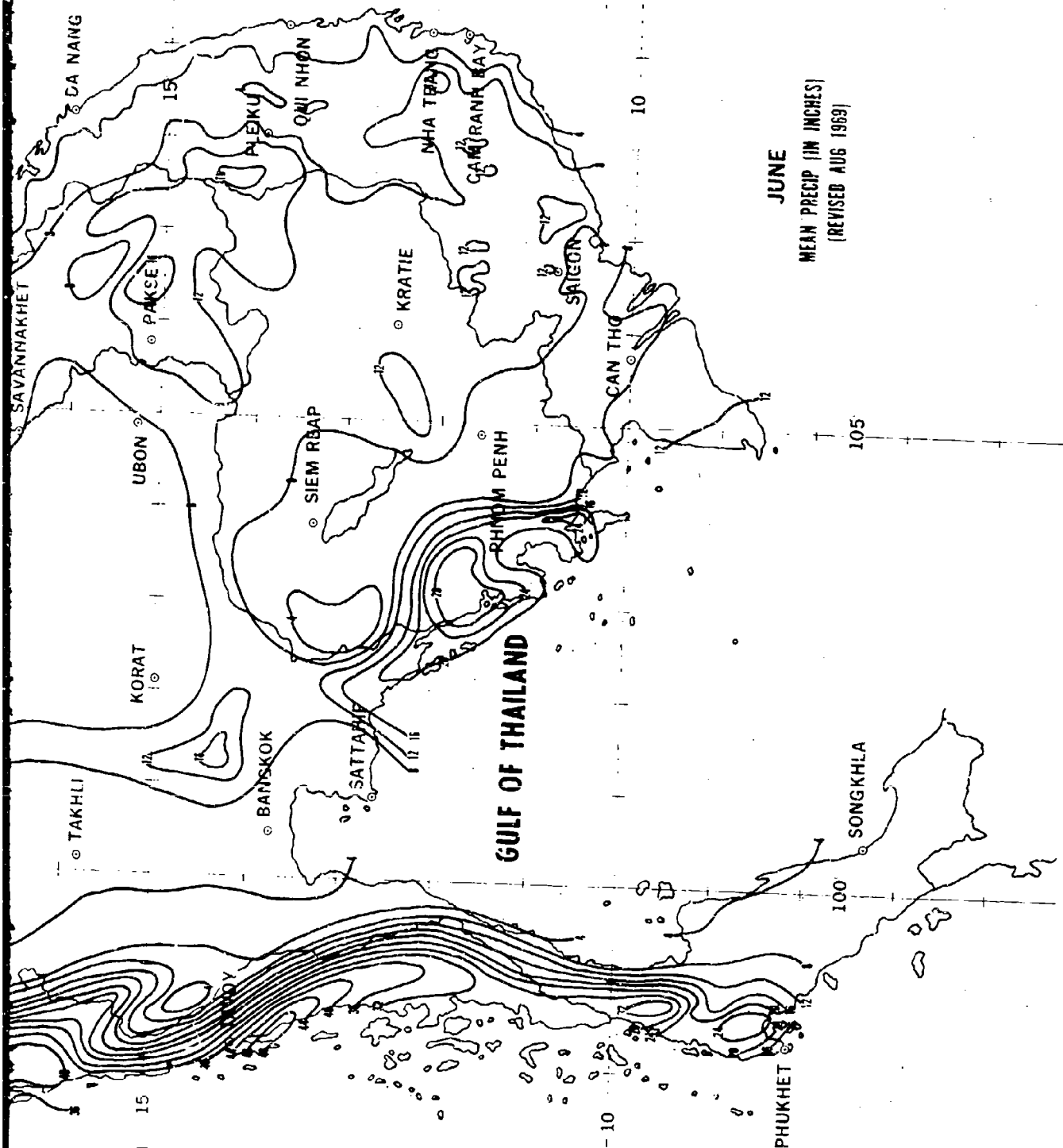
APRIL
MEAN PRECIP (IN INCHES)
(REVISED AUG 1969)

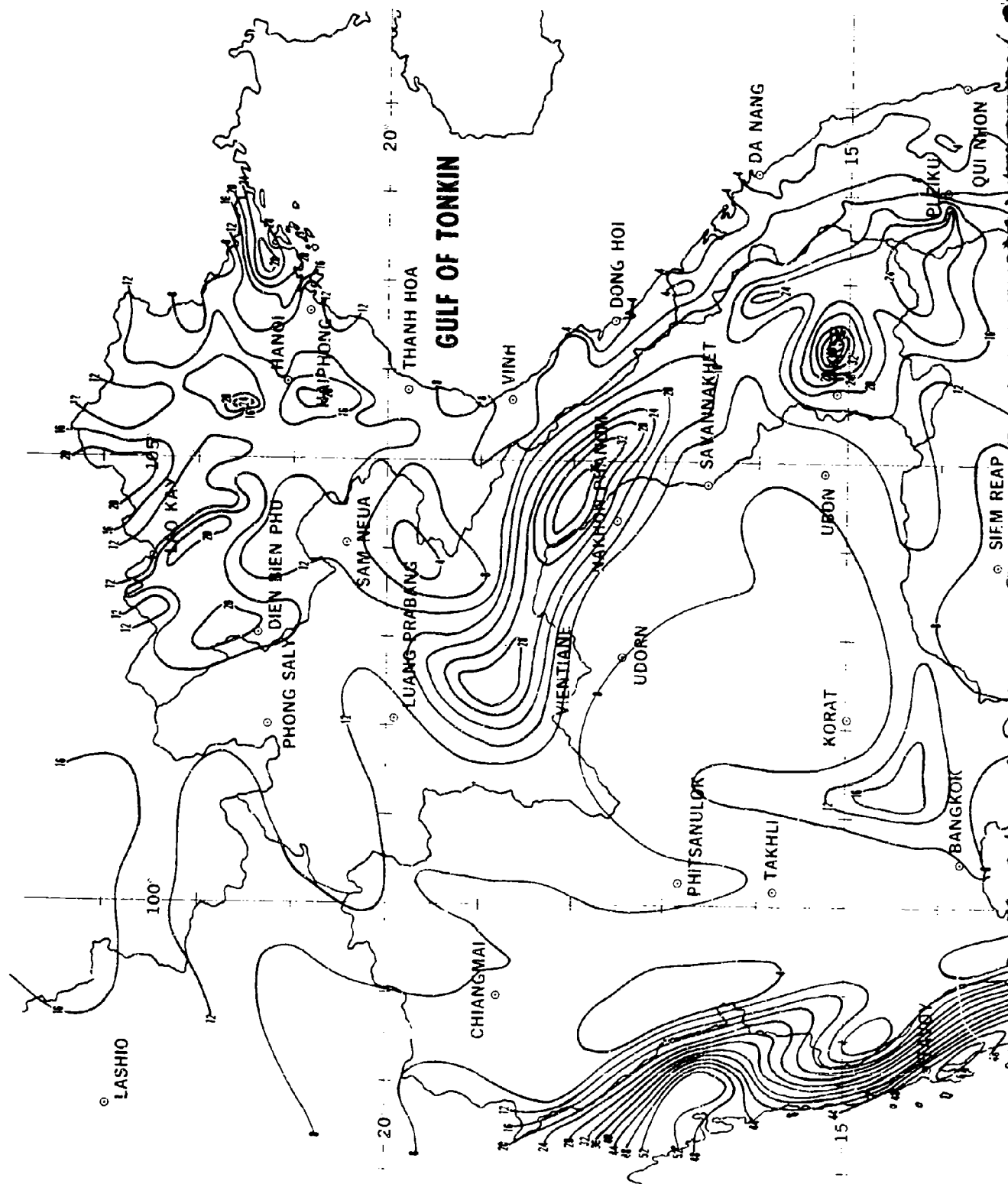
B

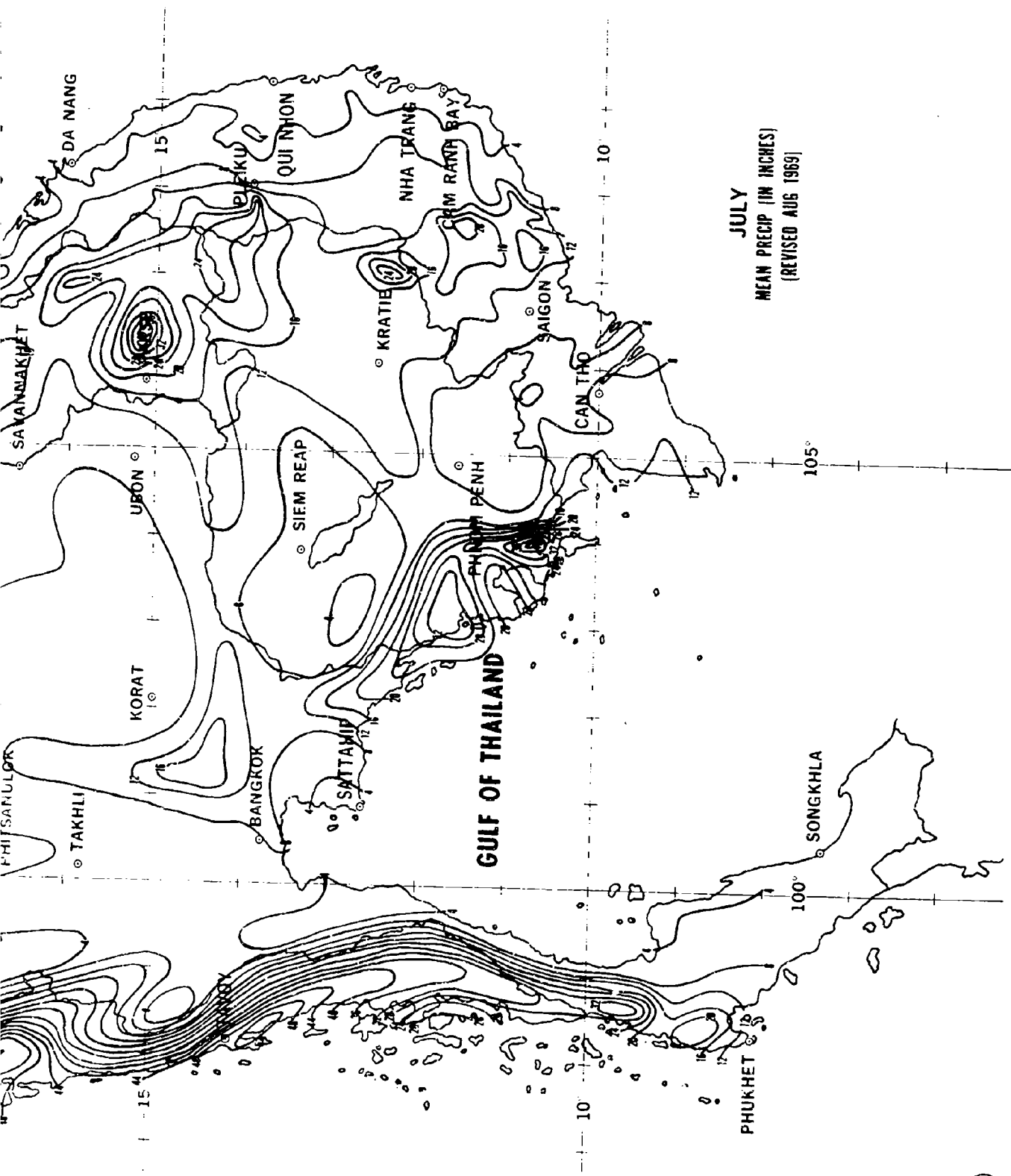




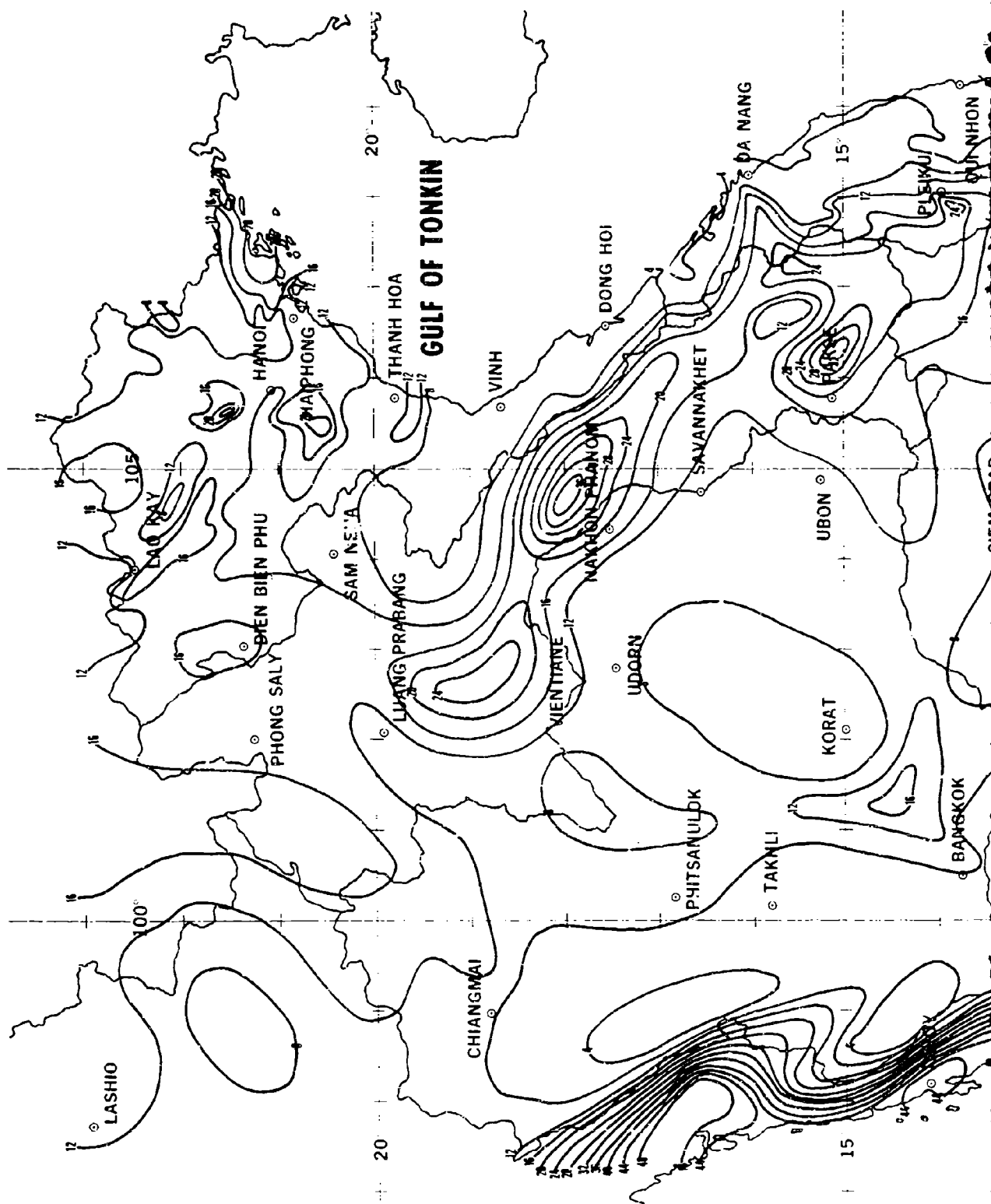


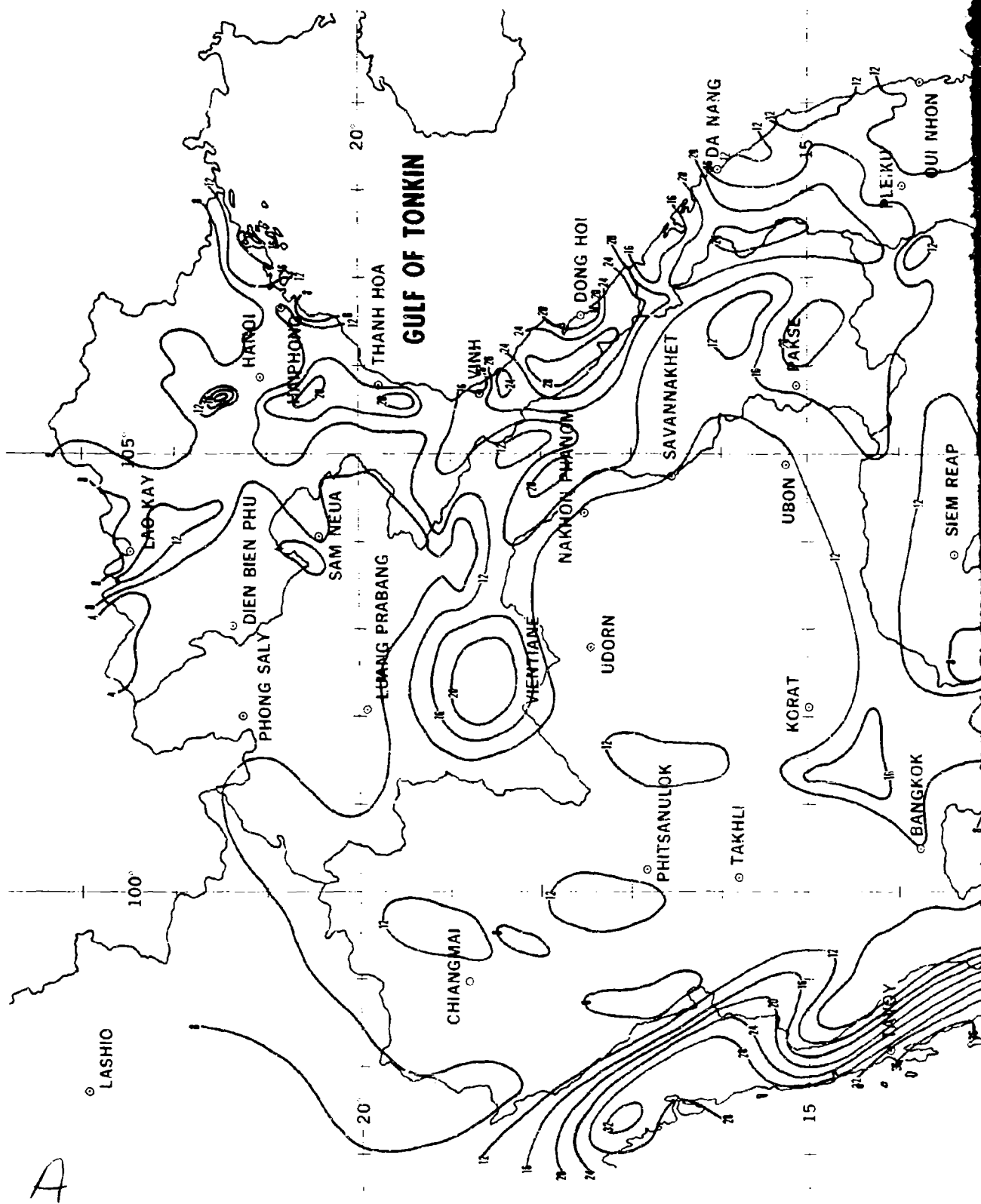


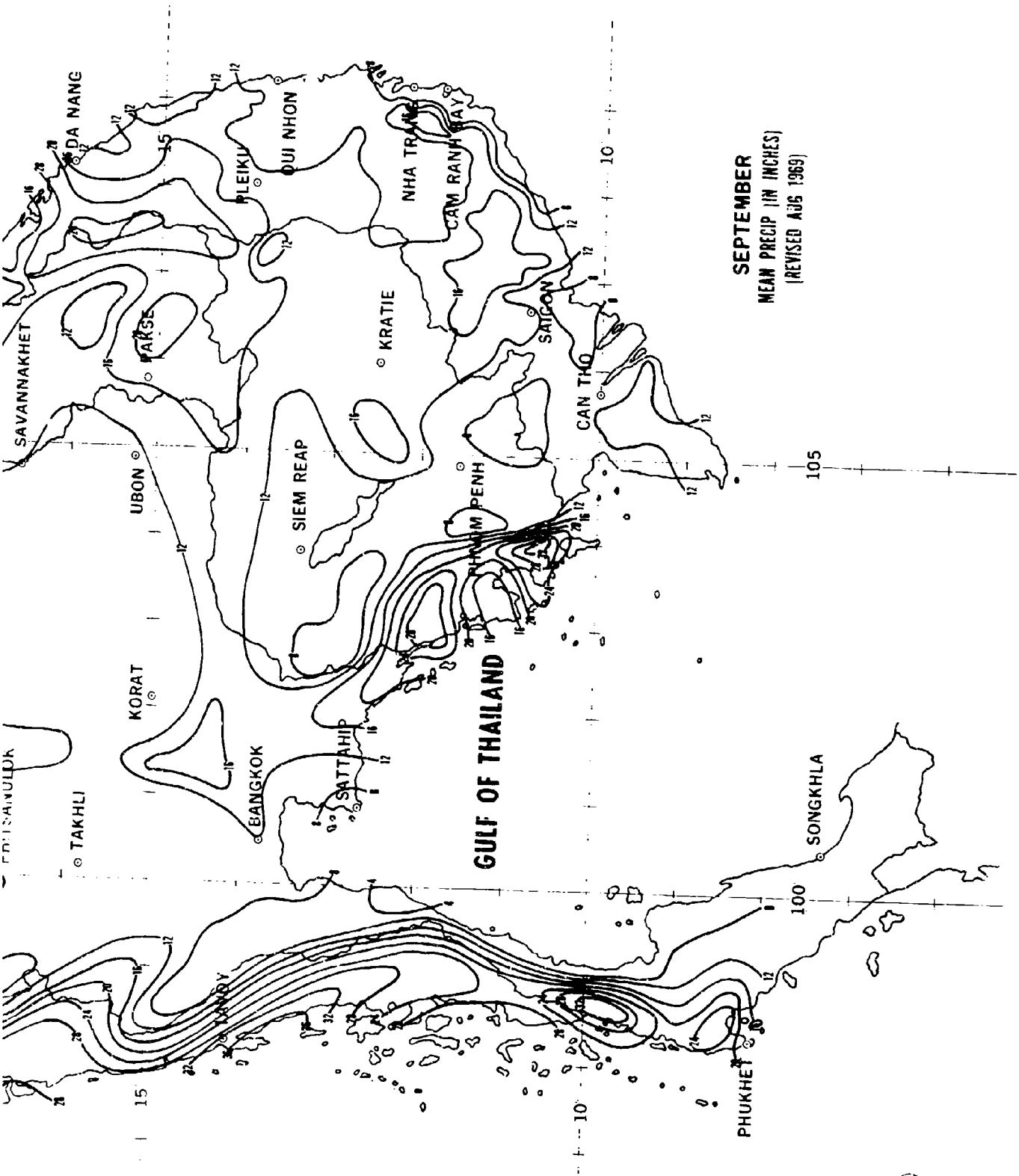




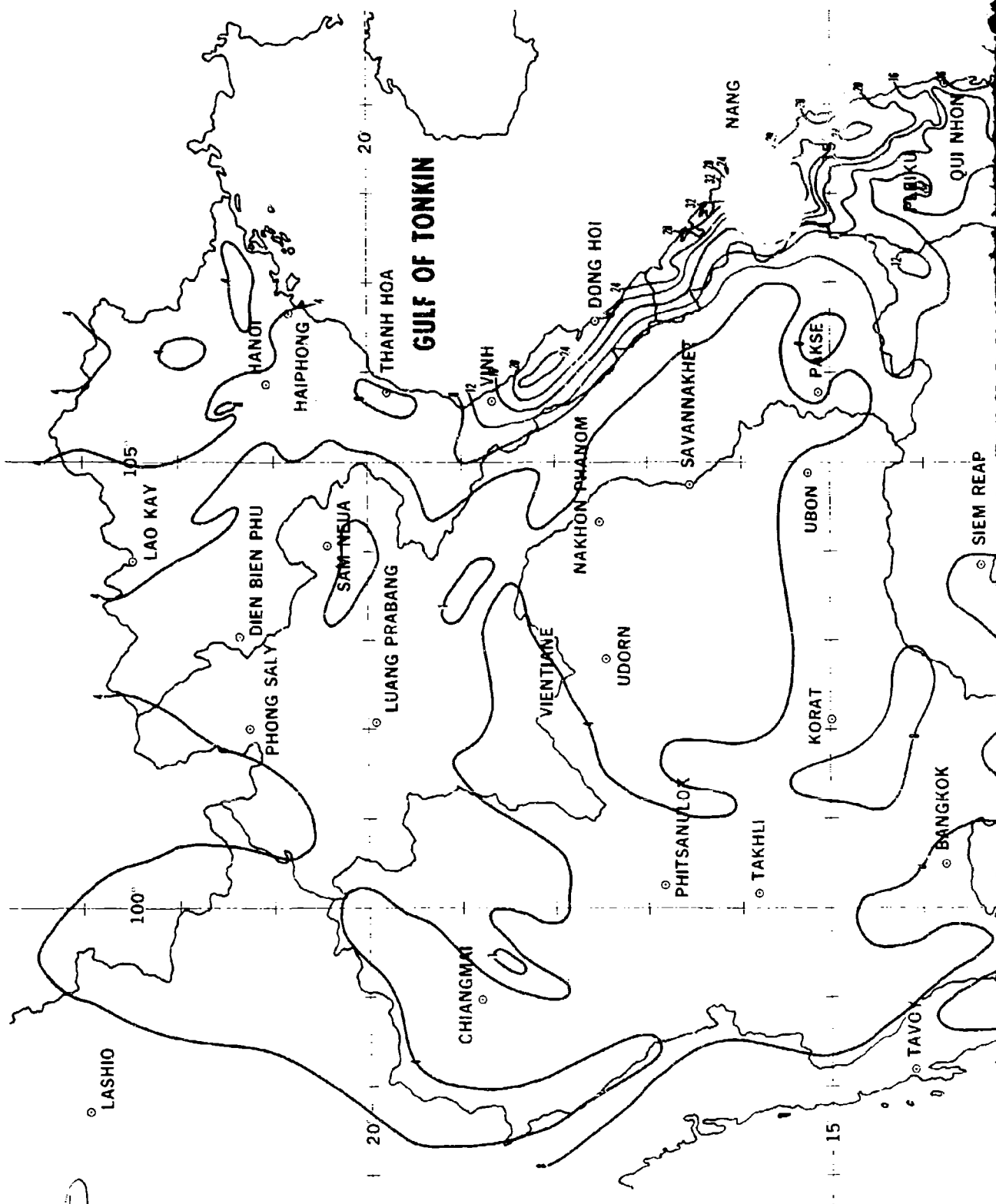
JULY
MEAN PRECIP (IN INCHES)
(REVISED AUG 1969)

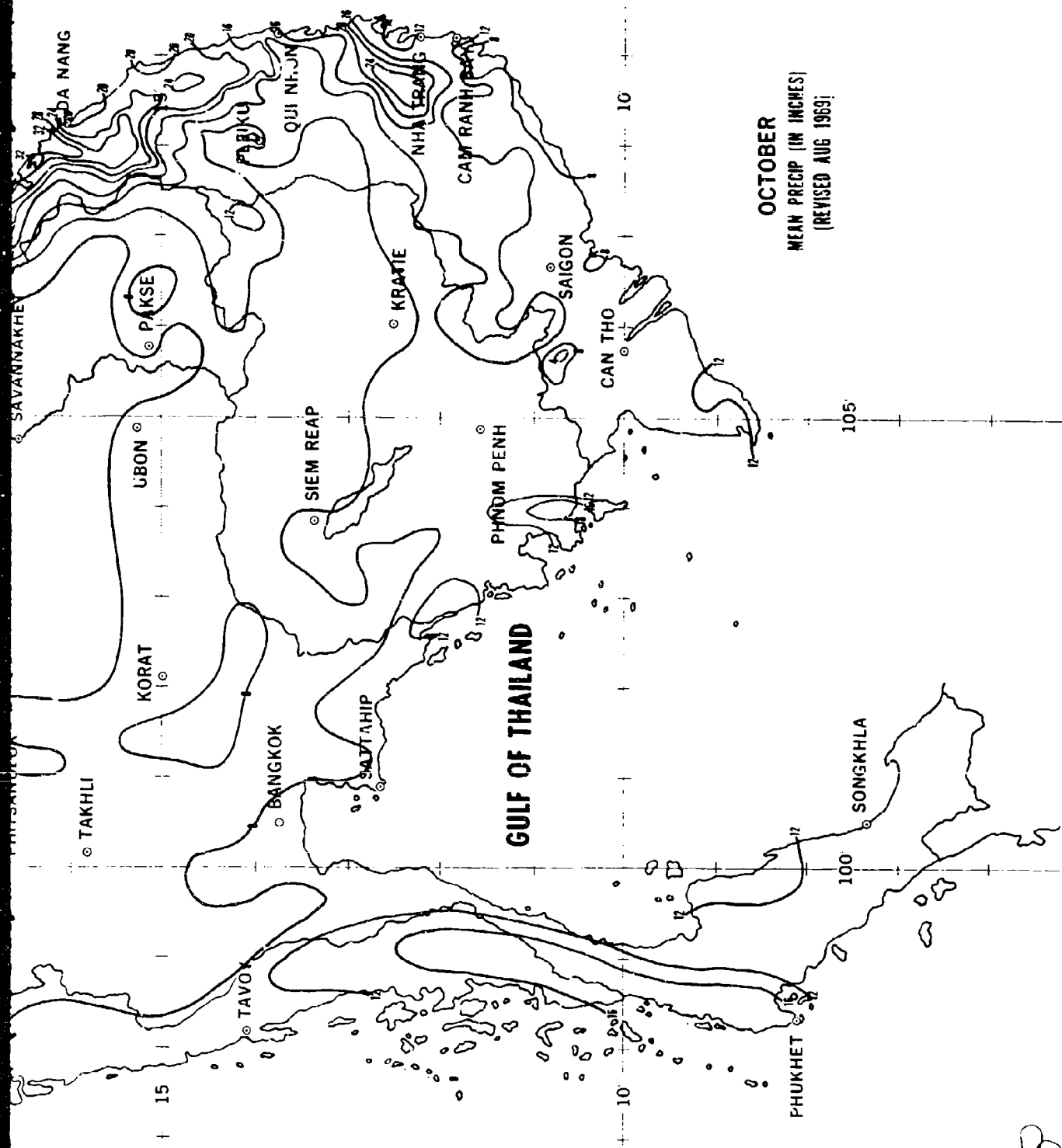






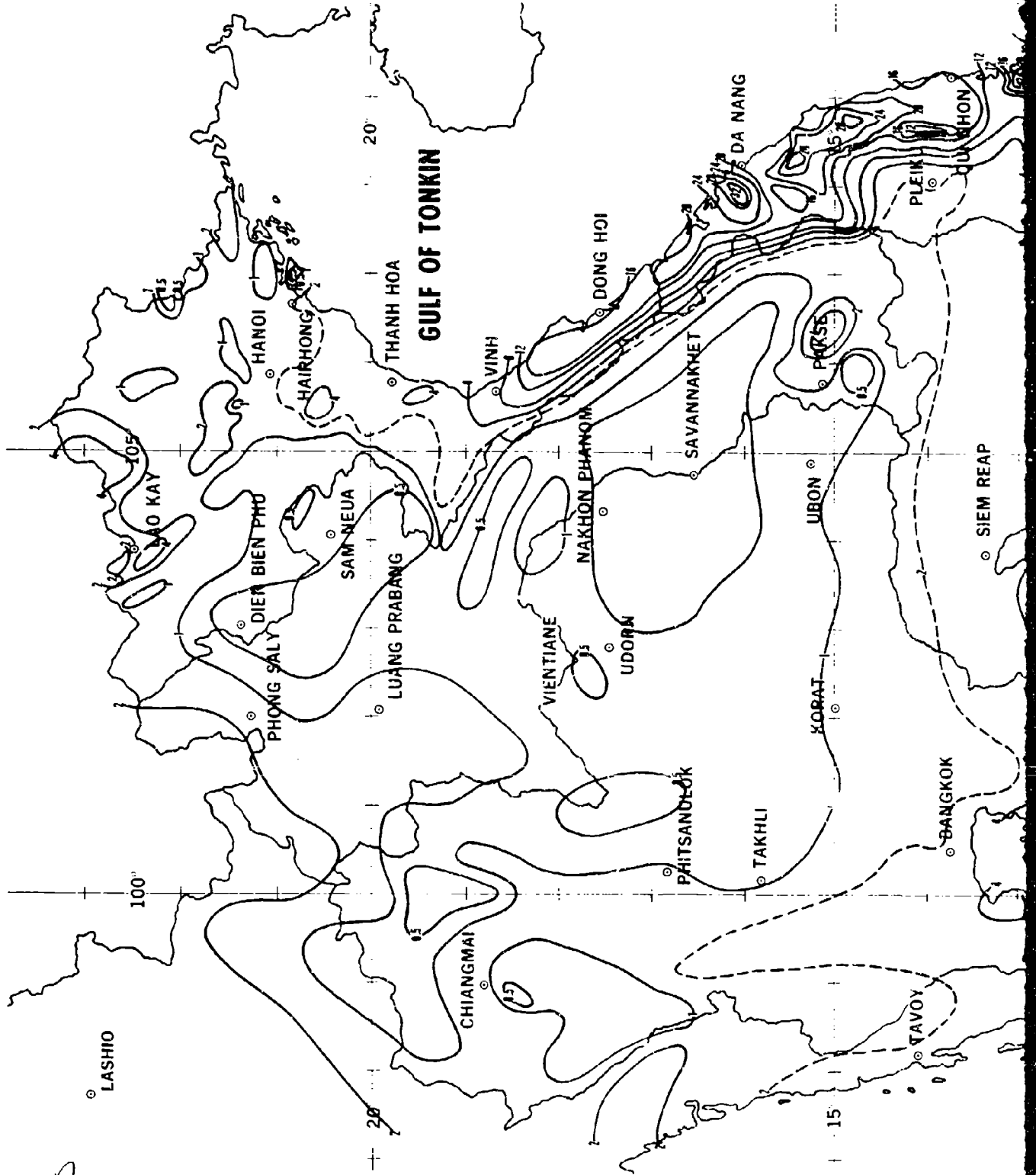
SEPTEMBER
MEAN PRECIP (IN INCHES)
(REVISED AUG 1969)

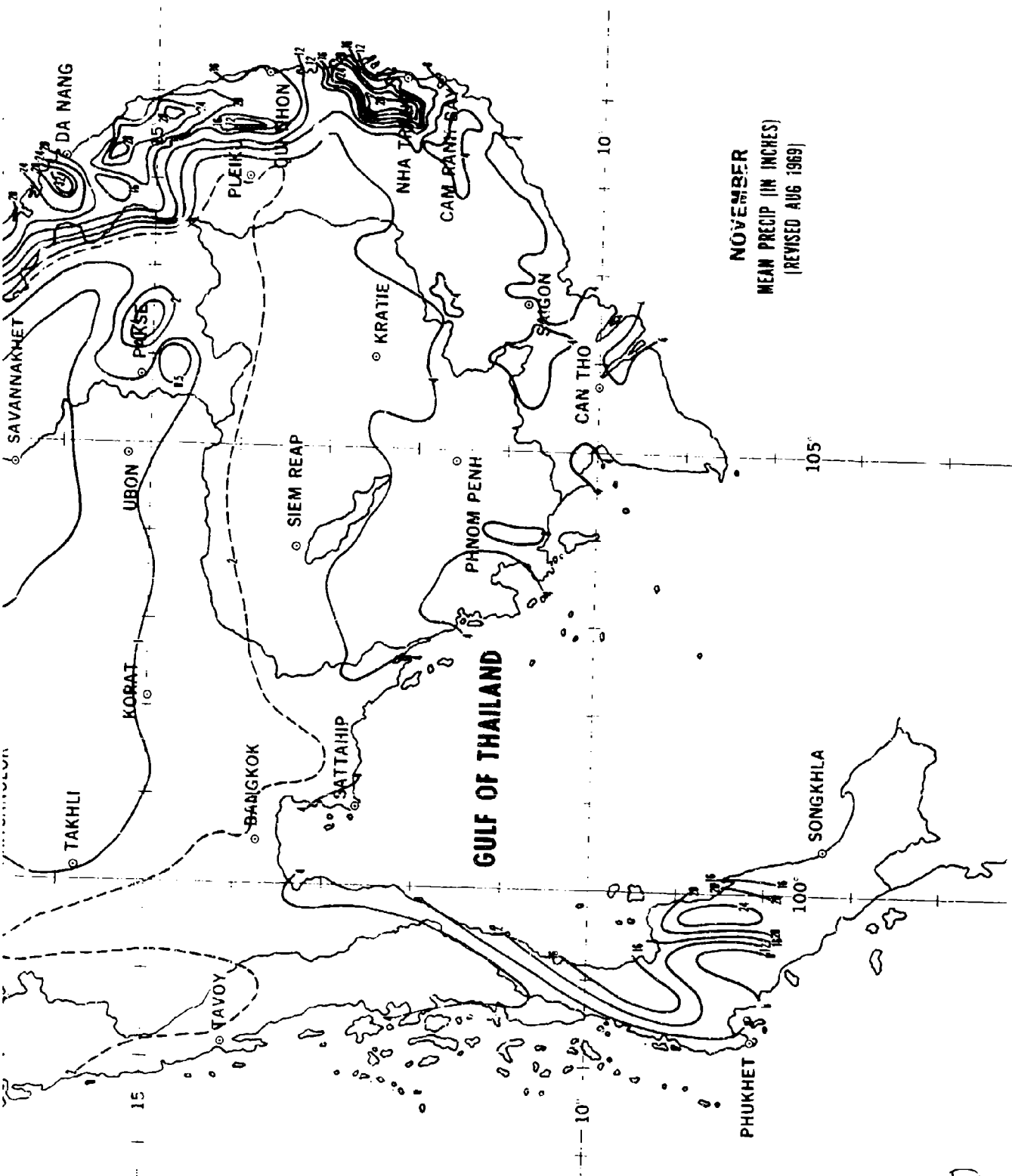


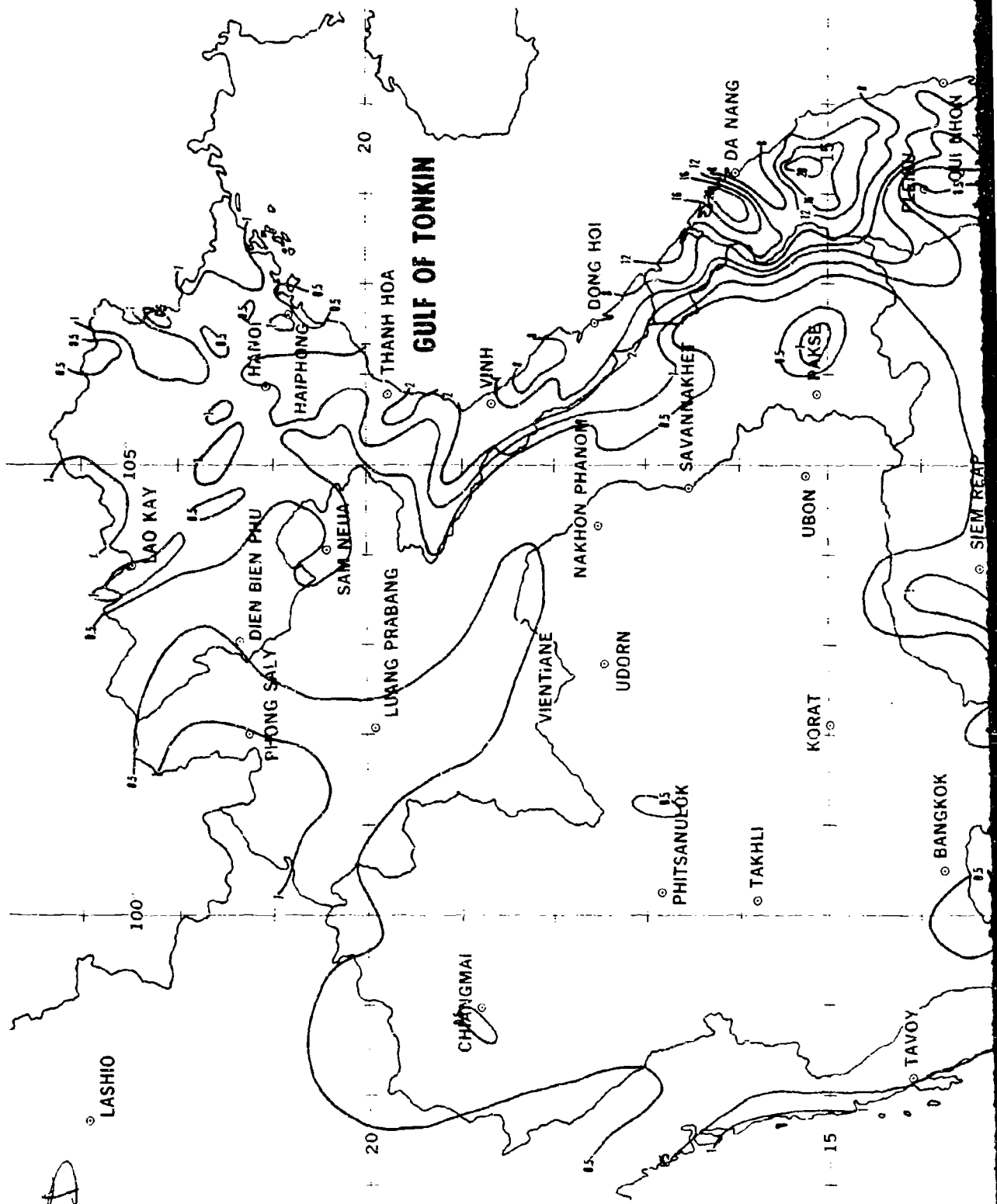


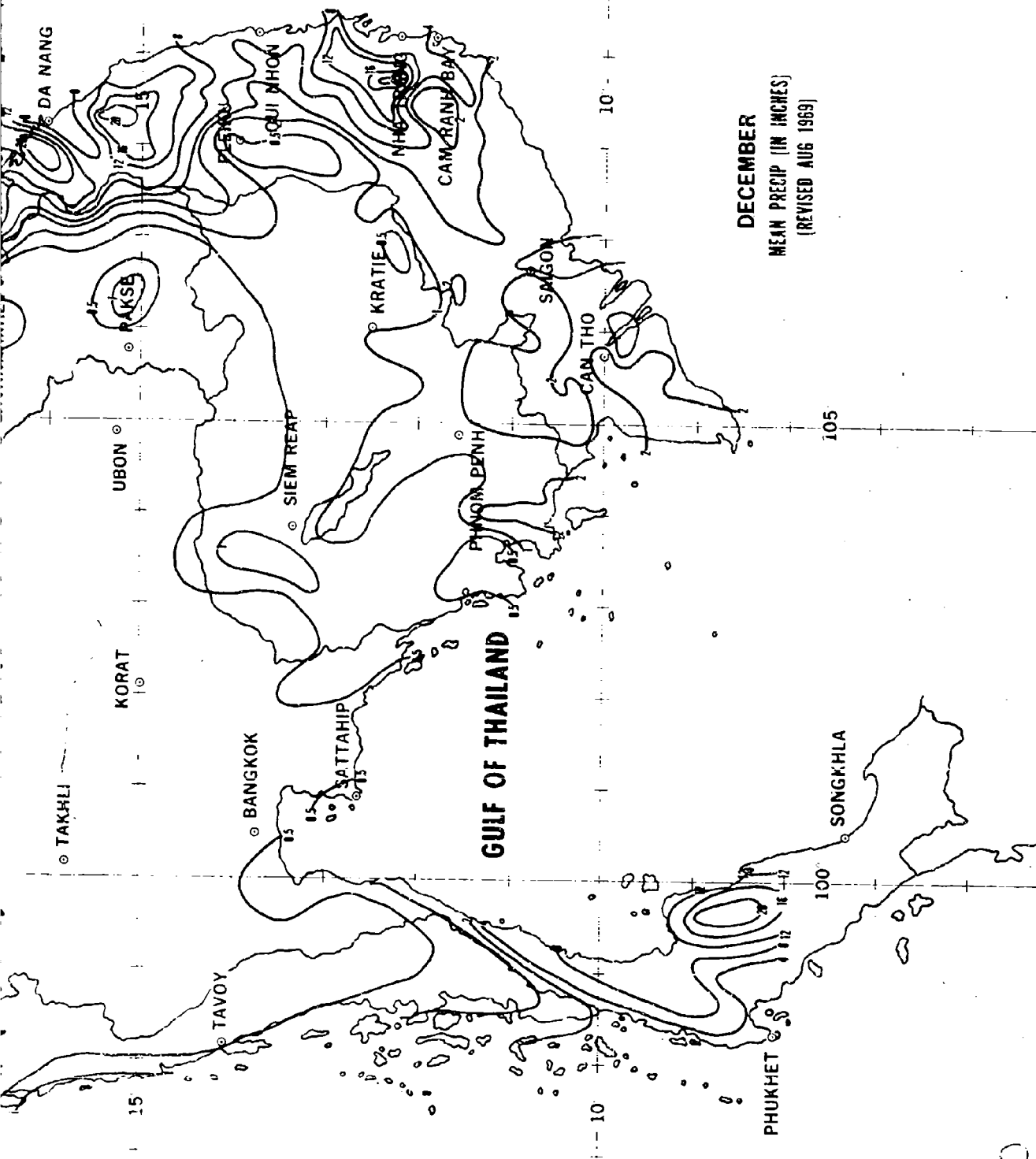
OCTOBER
MEAN PRECIP (IN INCHES)
(REVISED AUG 1969)

B





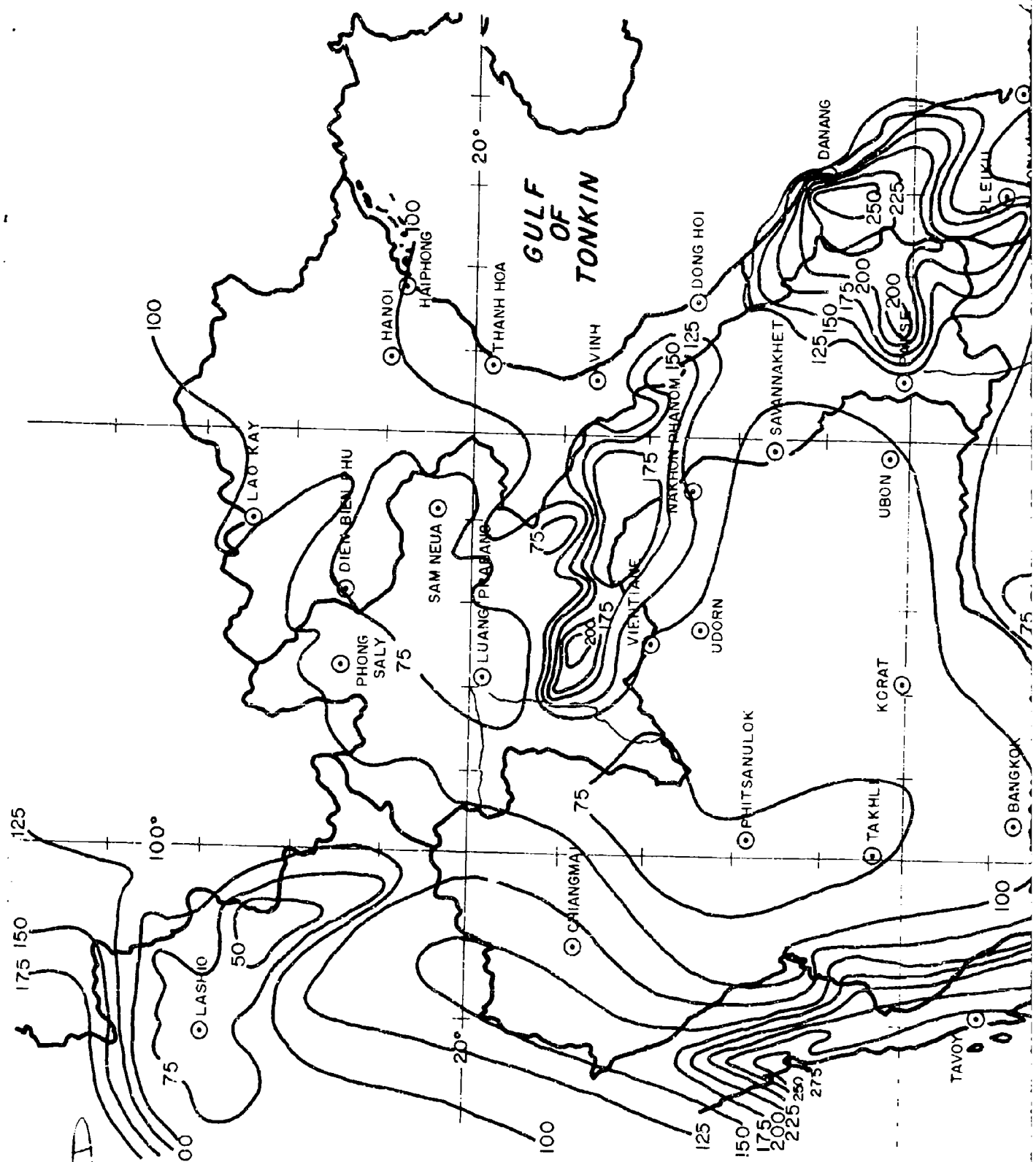


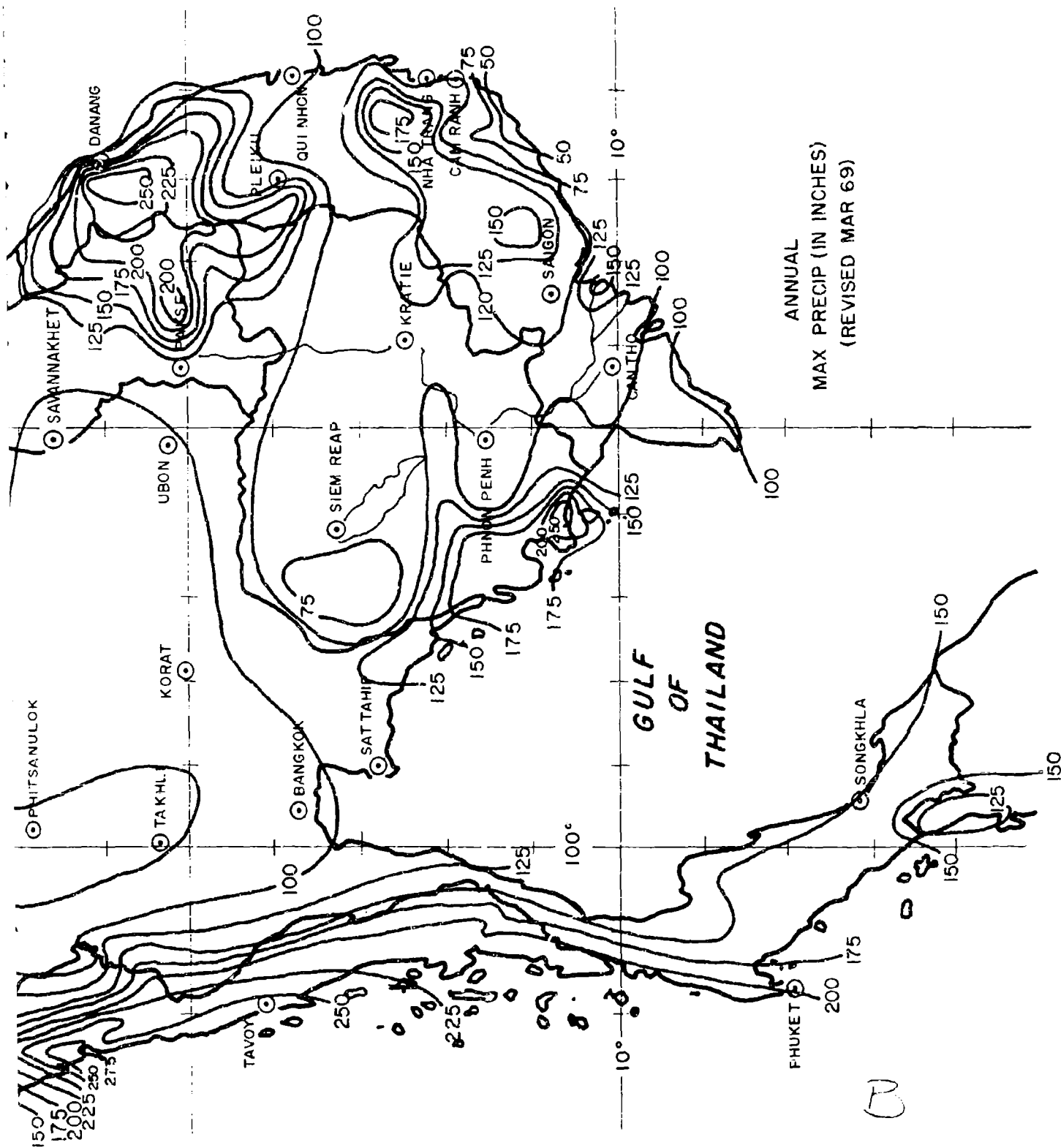


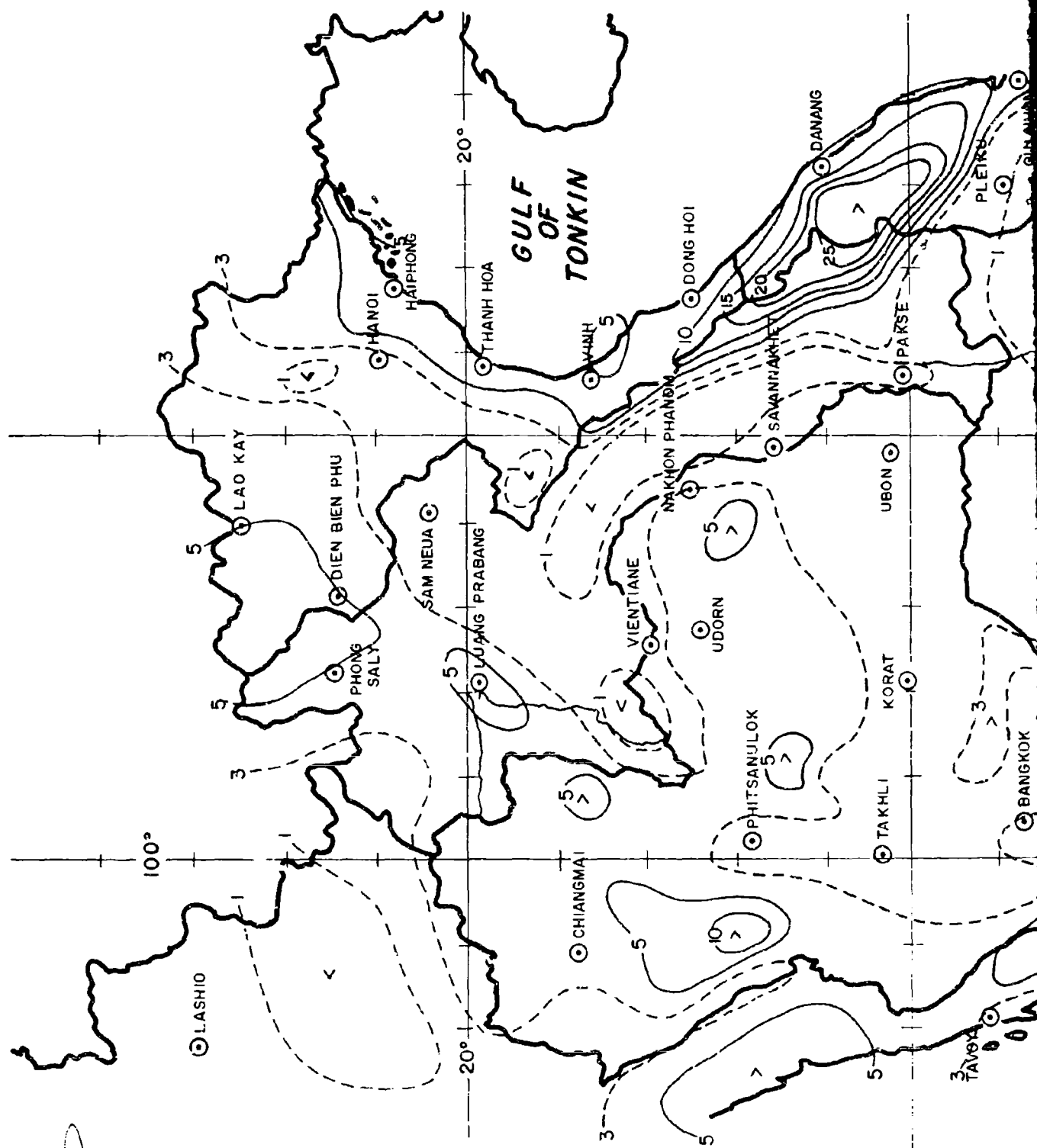
B

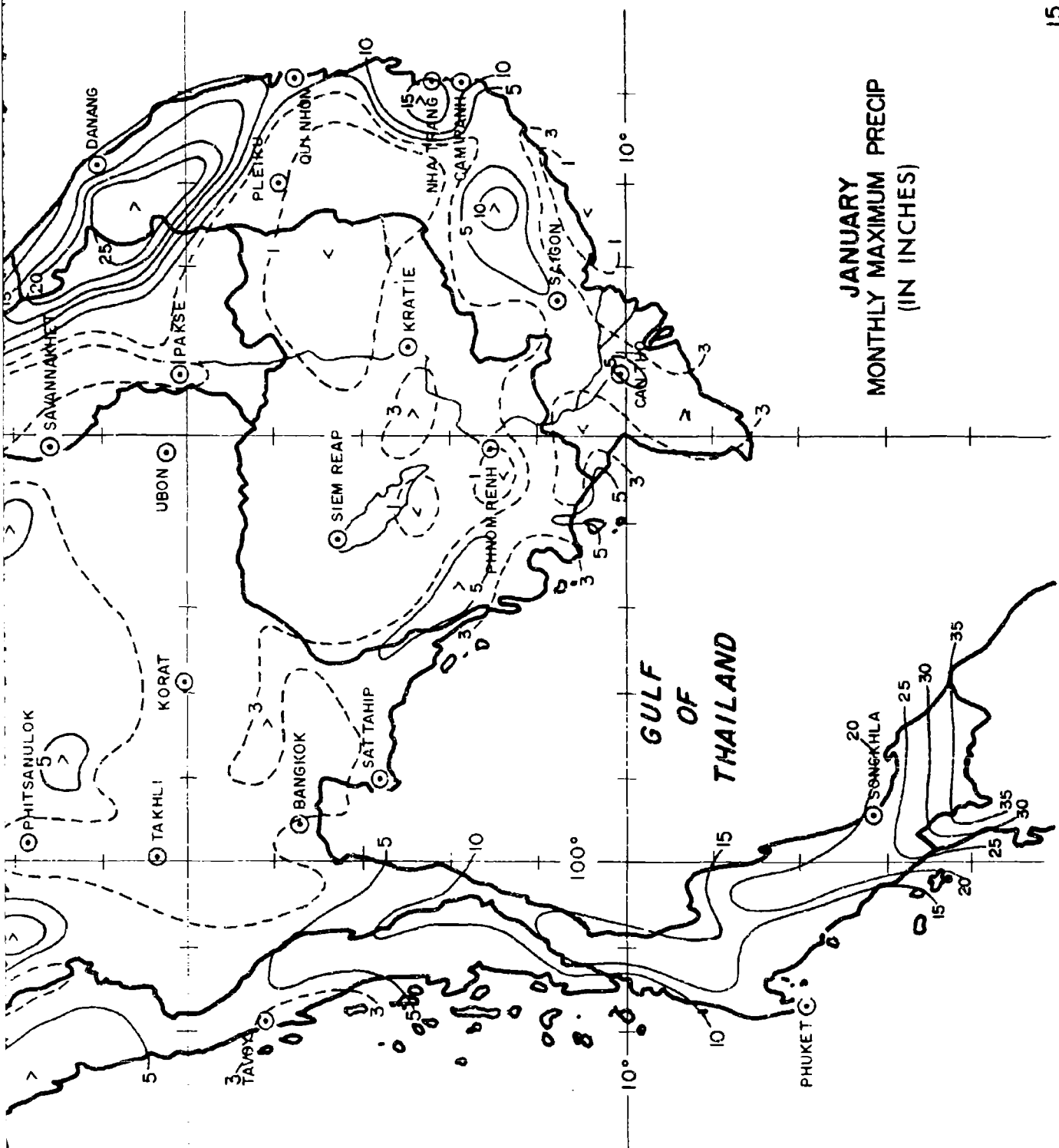
SECTION II

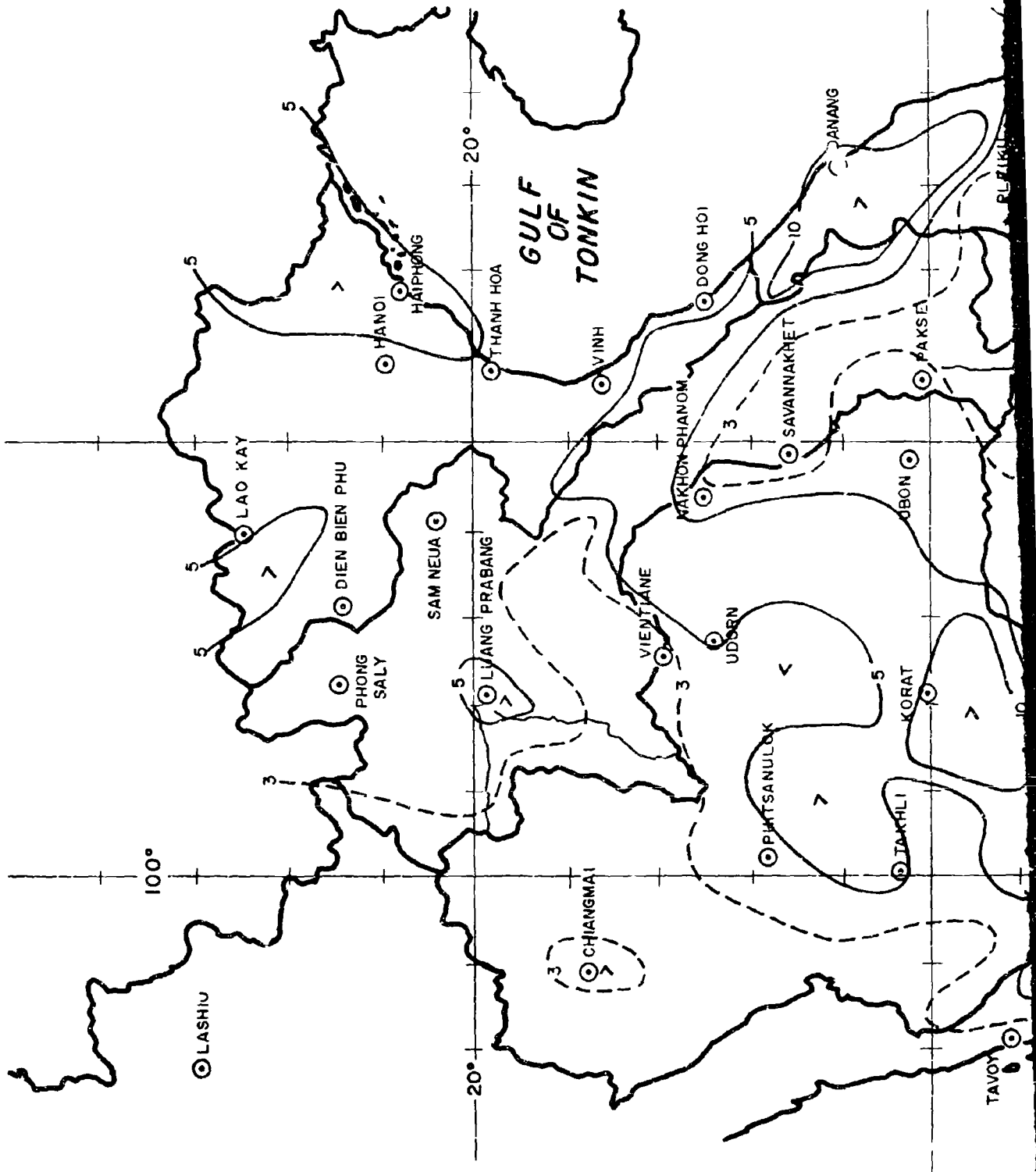
**MAXIMUM
PRECIPITATION**



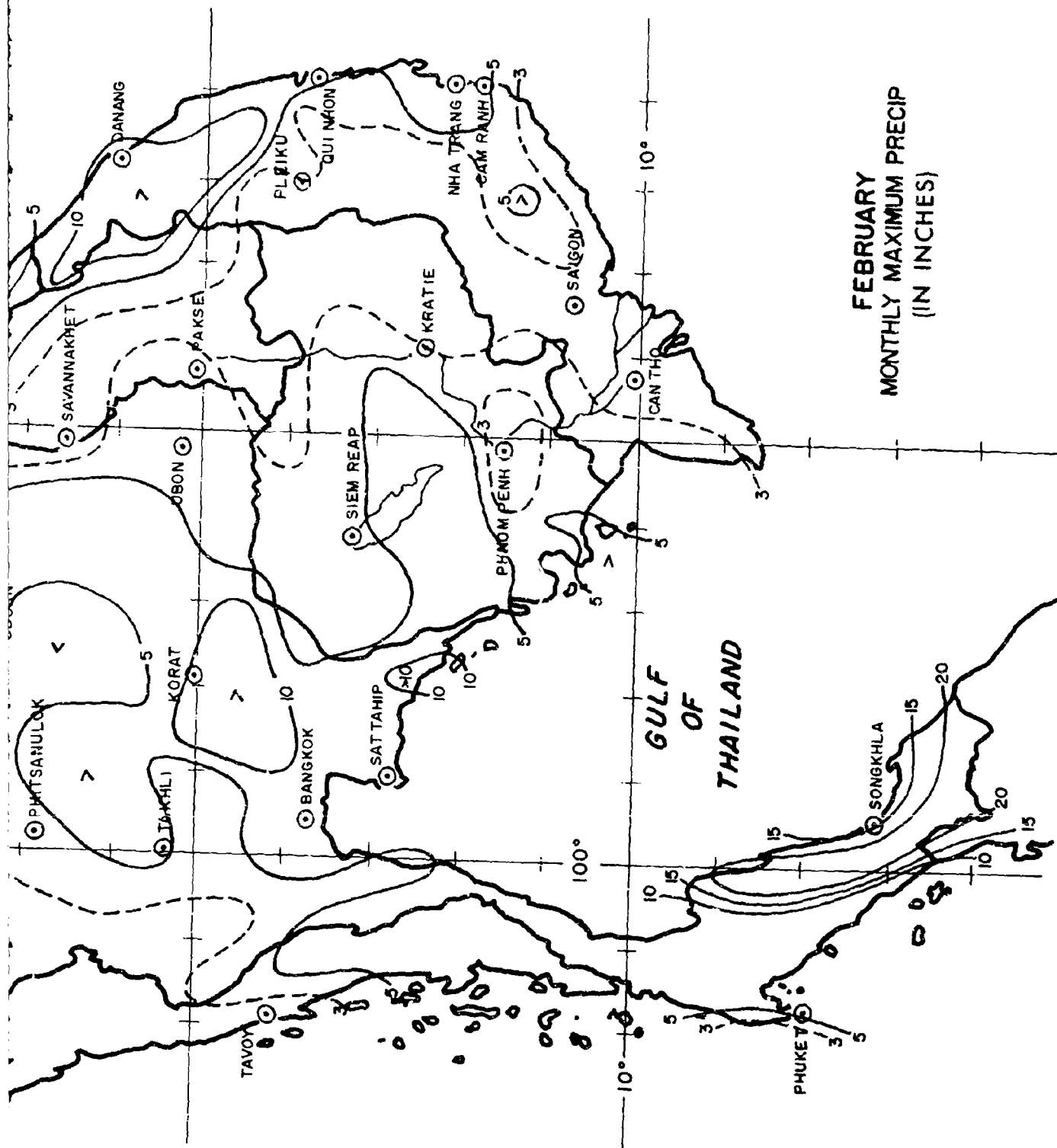






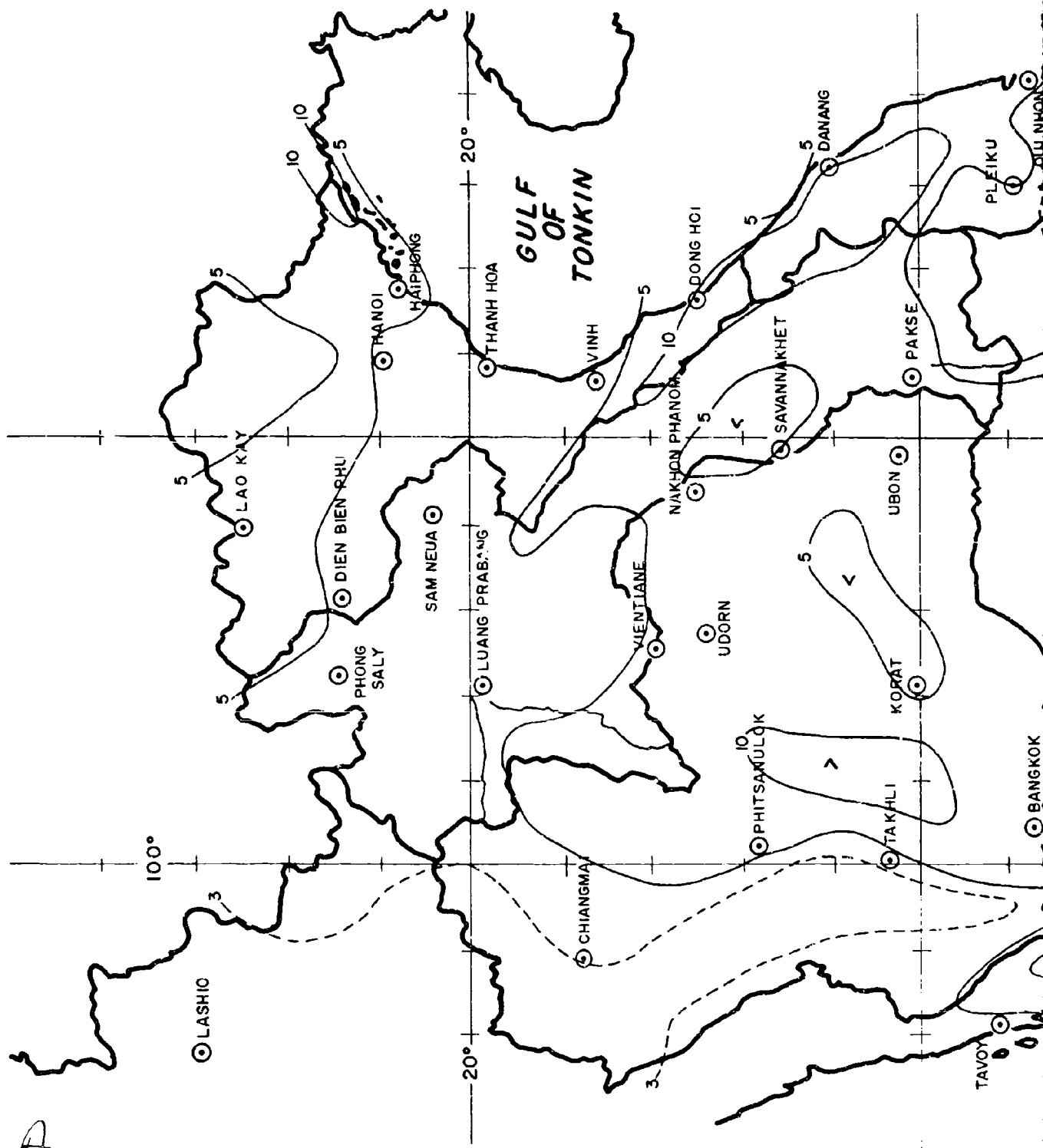


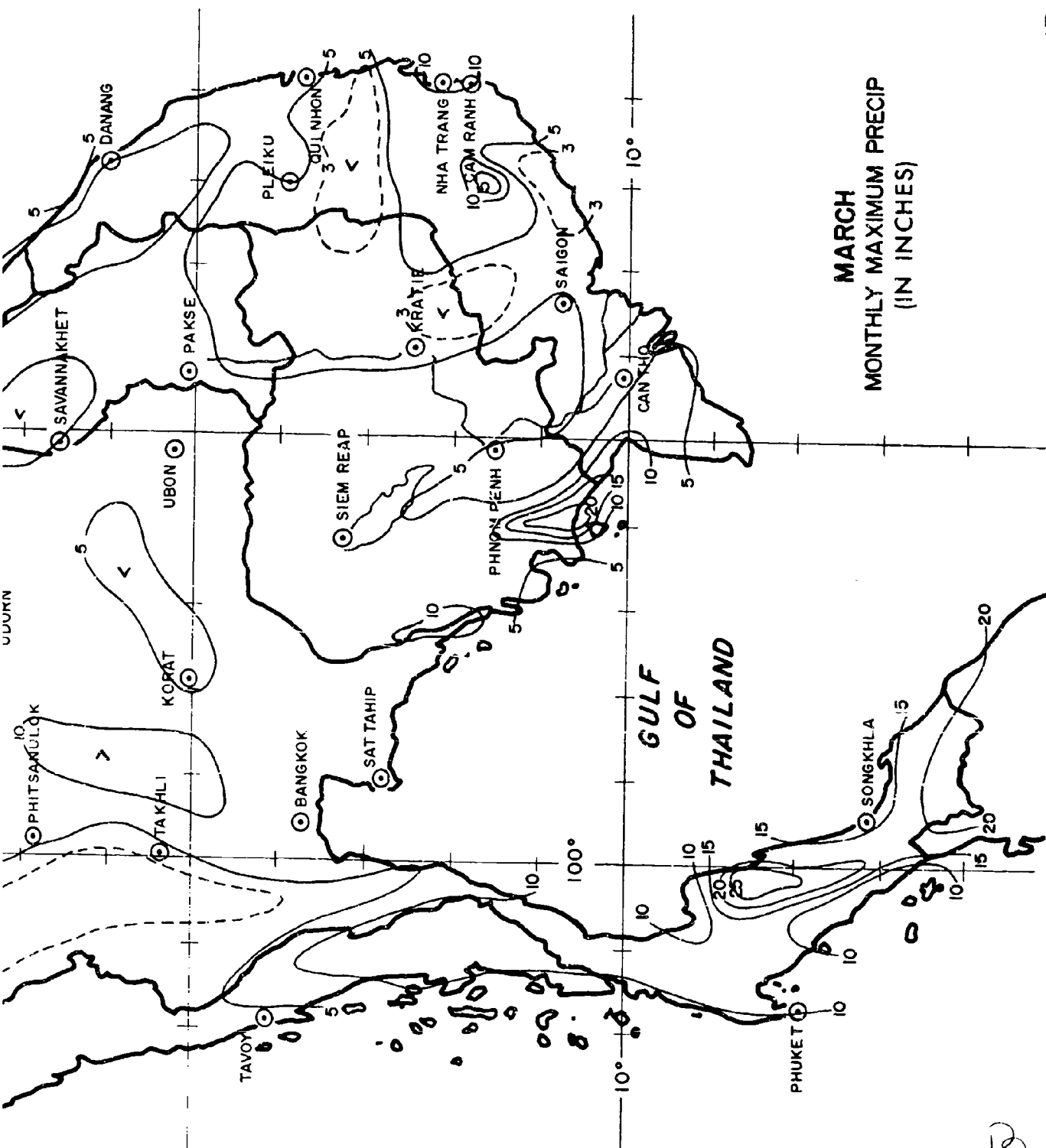
A



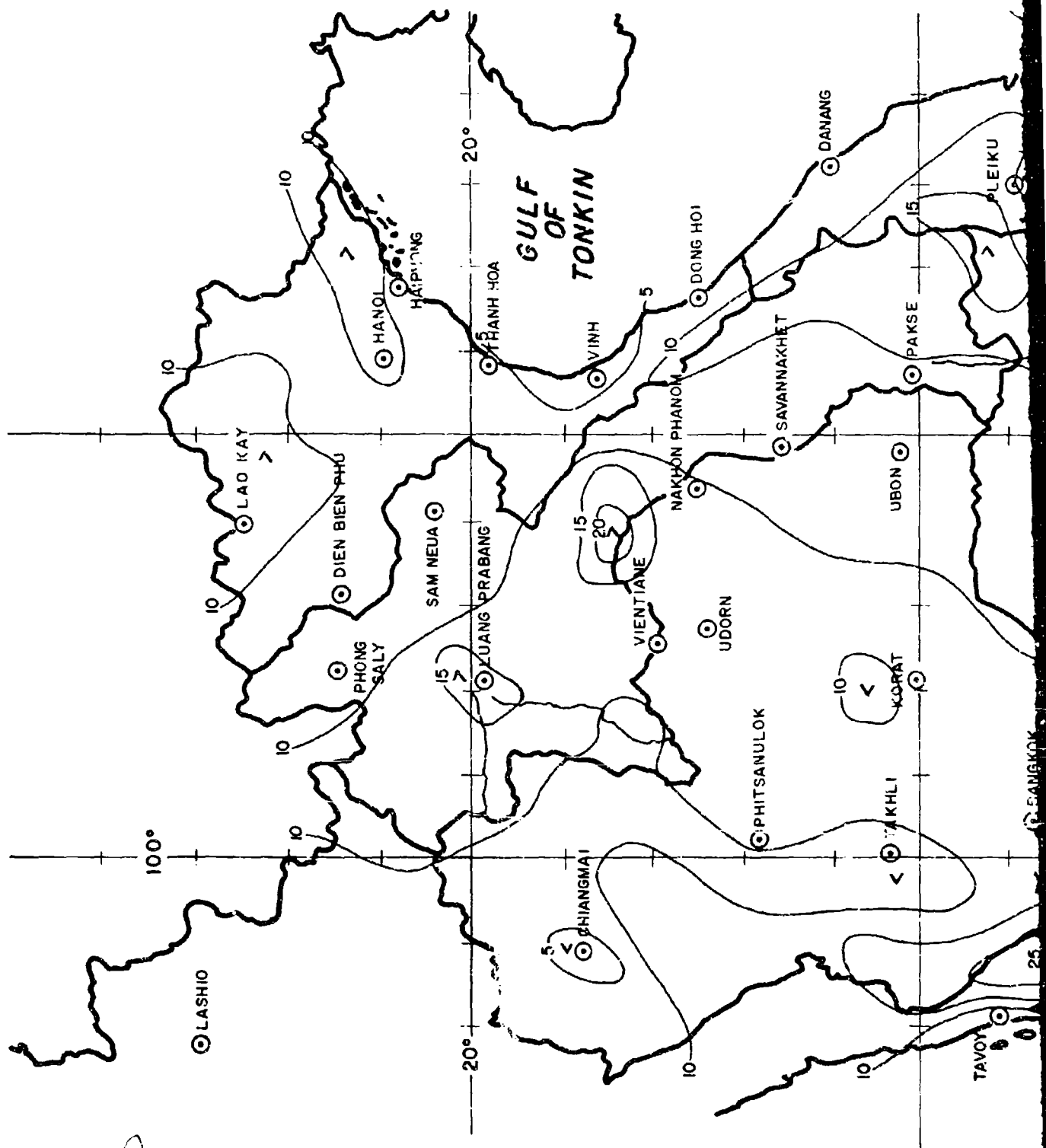
FEBRUARY
MONTHLY MAXIMUM PRECIP
(IN INCHES)

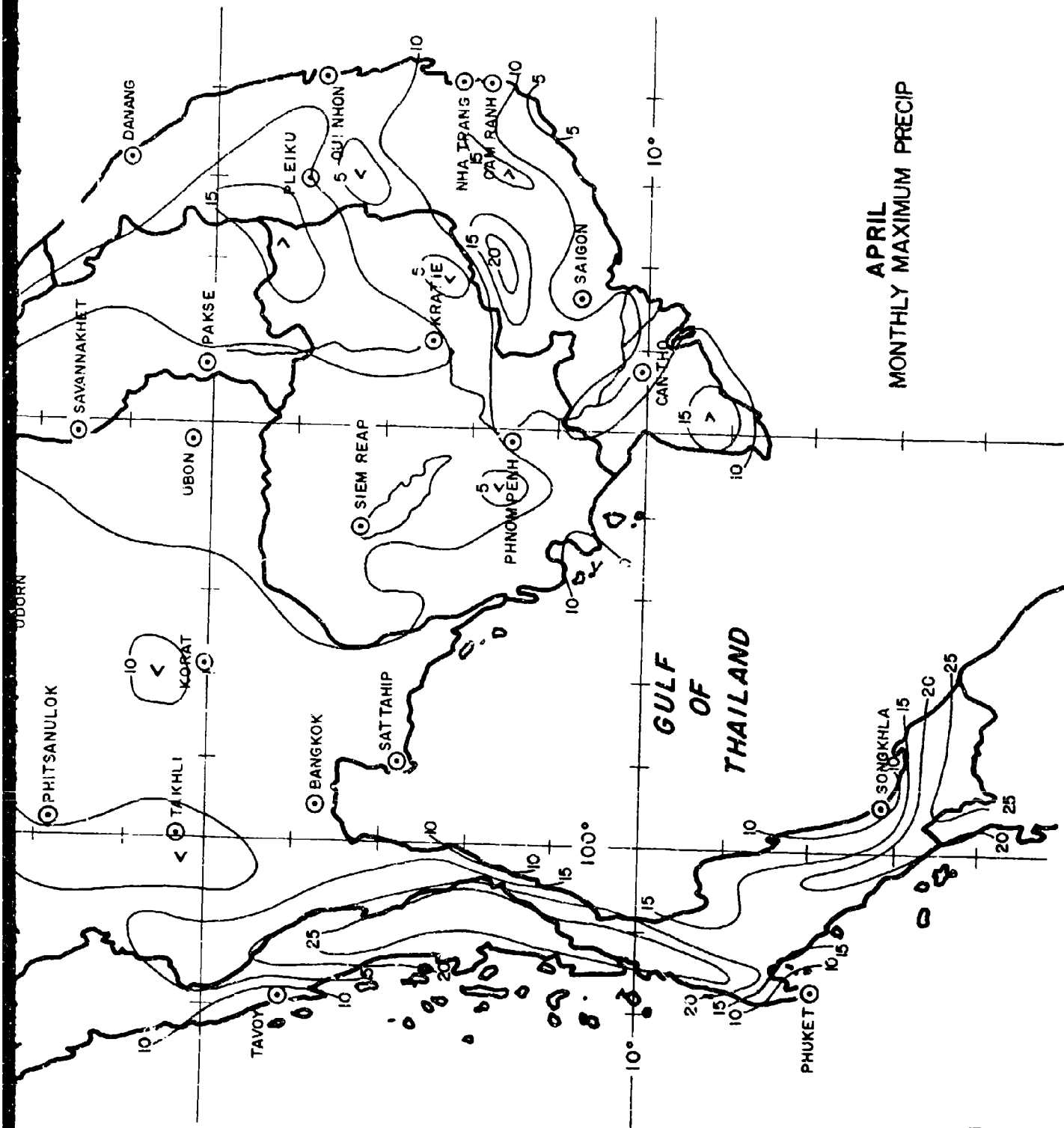
B



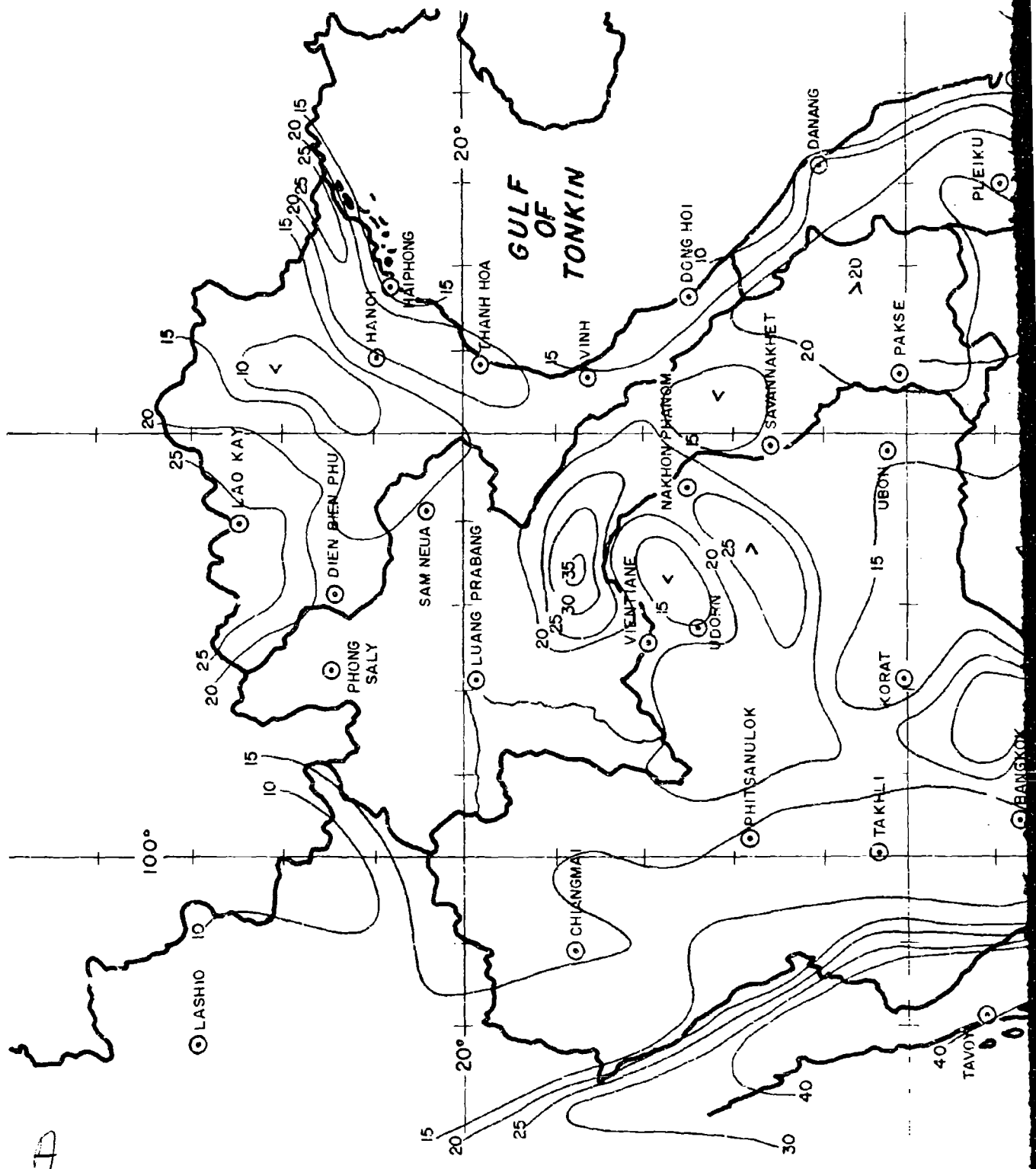


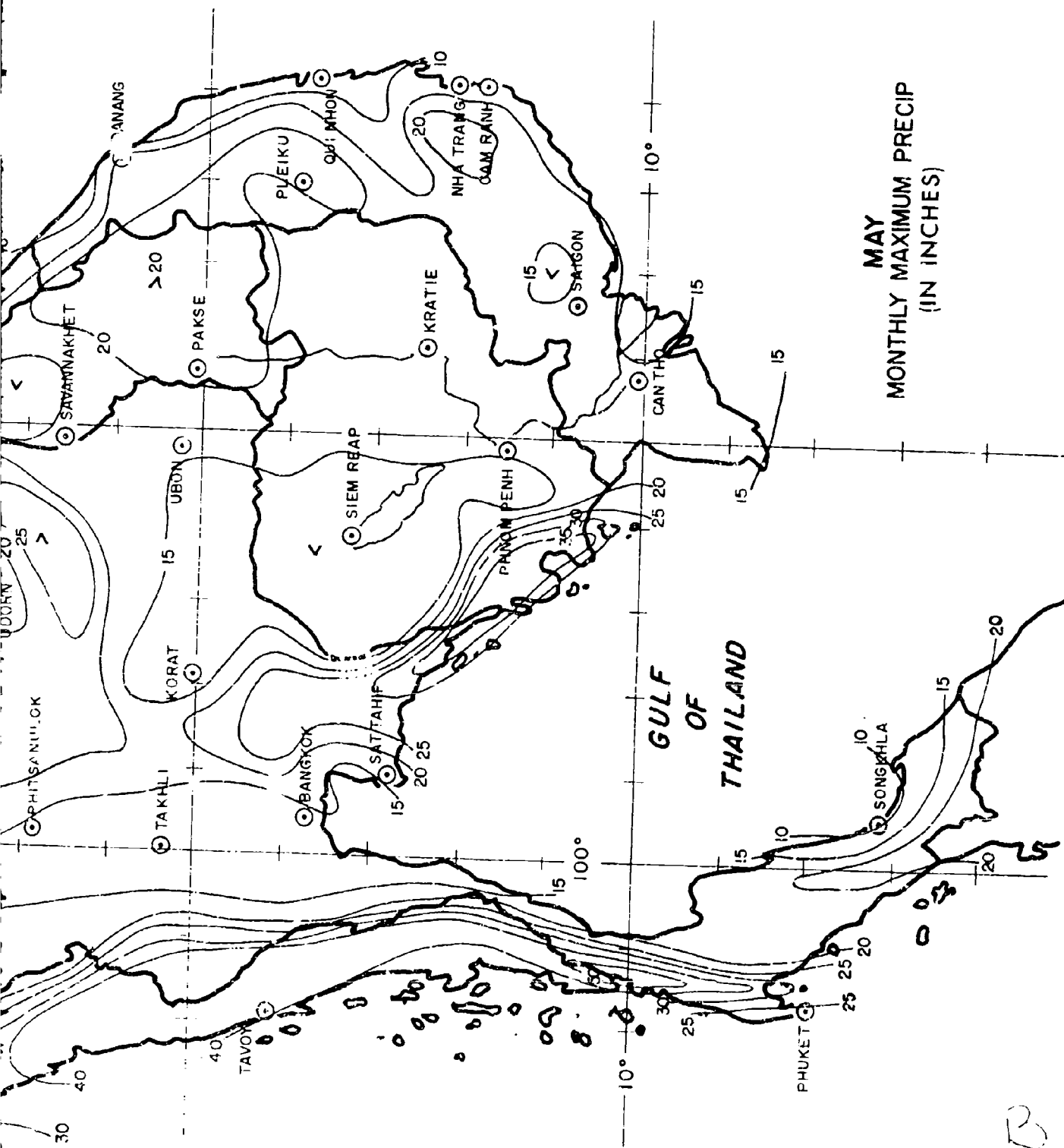
MARCH
MONTHLY MAXIMUM PRECIP
(IN INCHES)



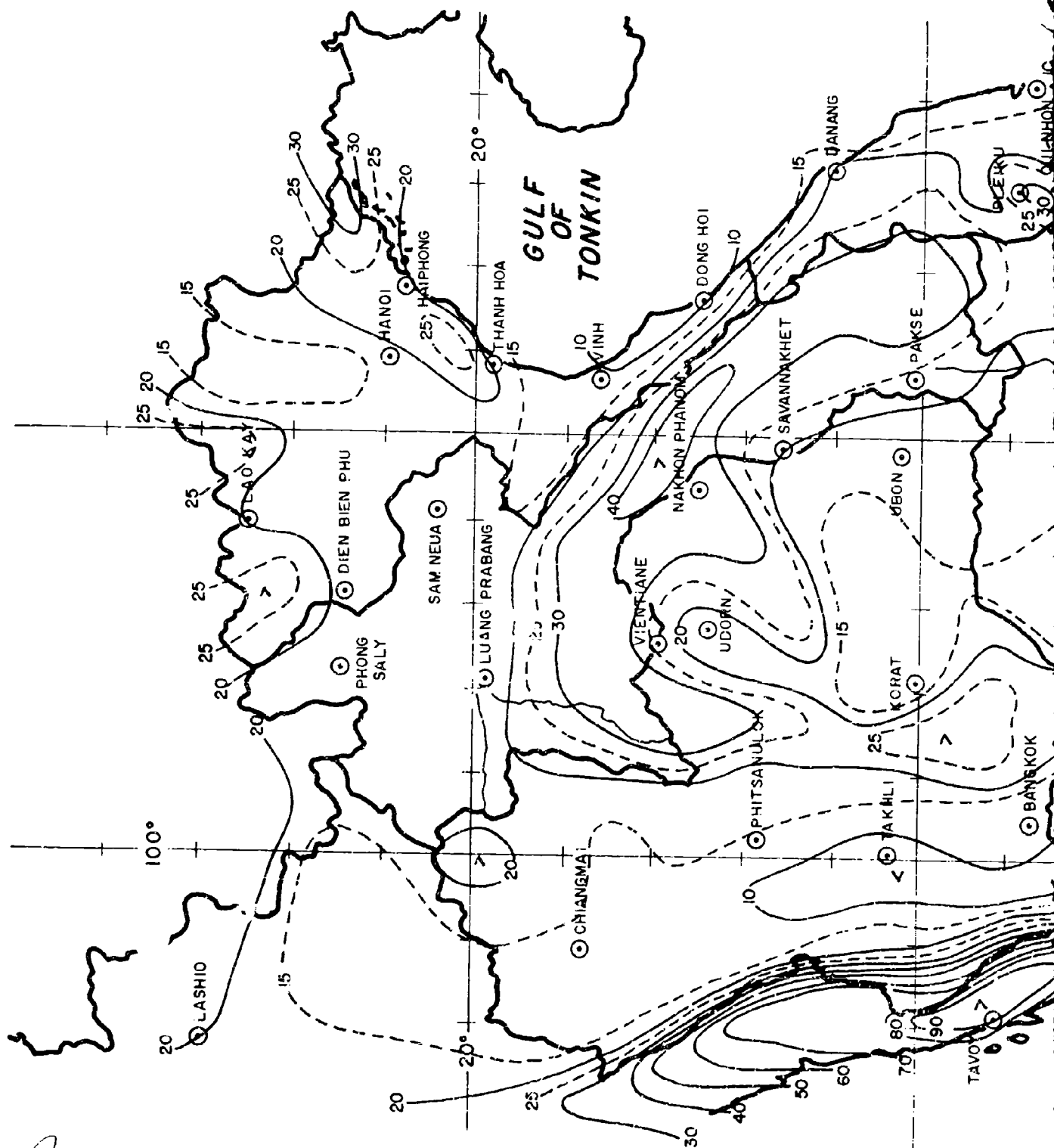


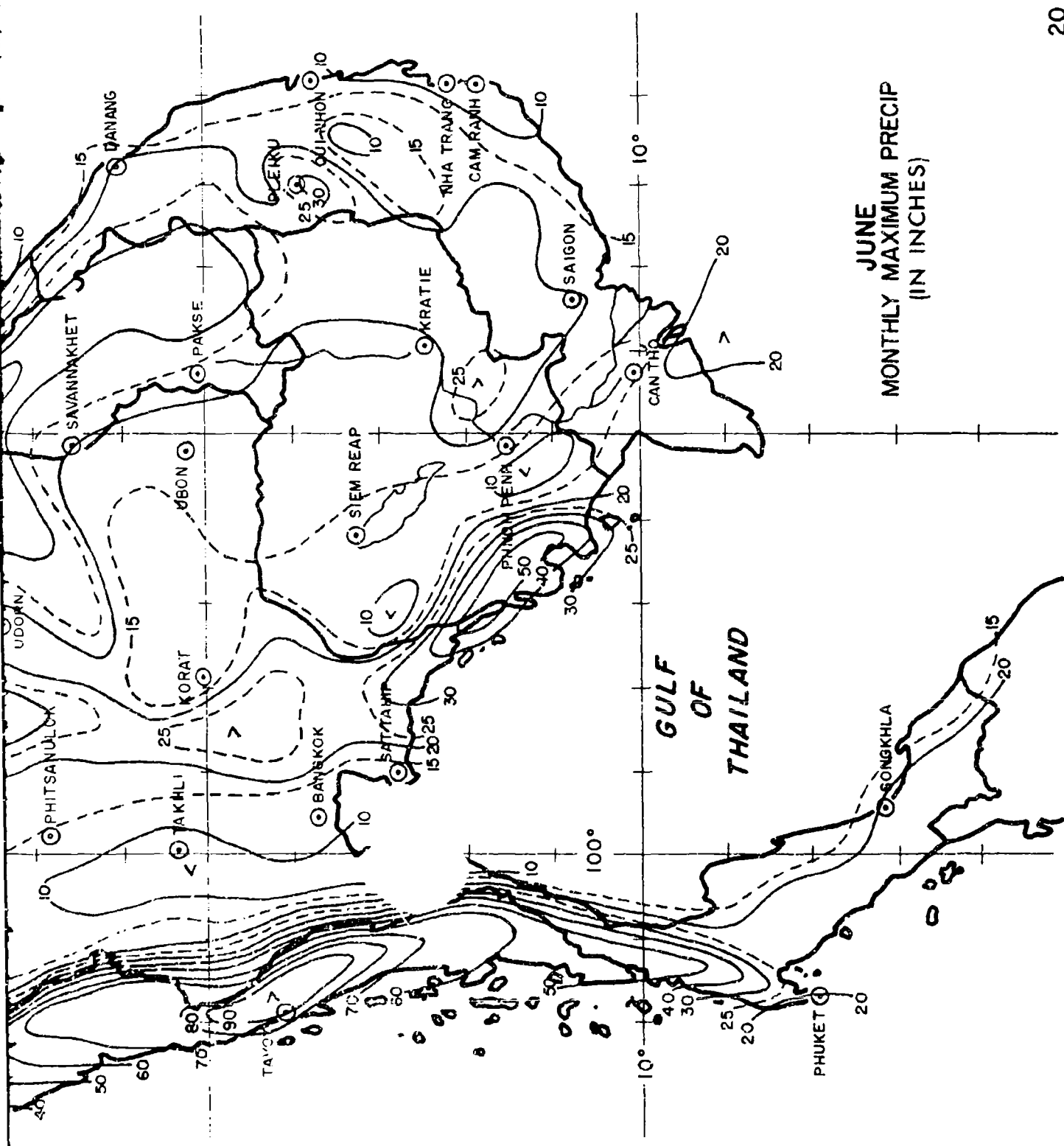
APRIL
MONTHLY MAXIMUM PRECIP

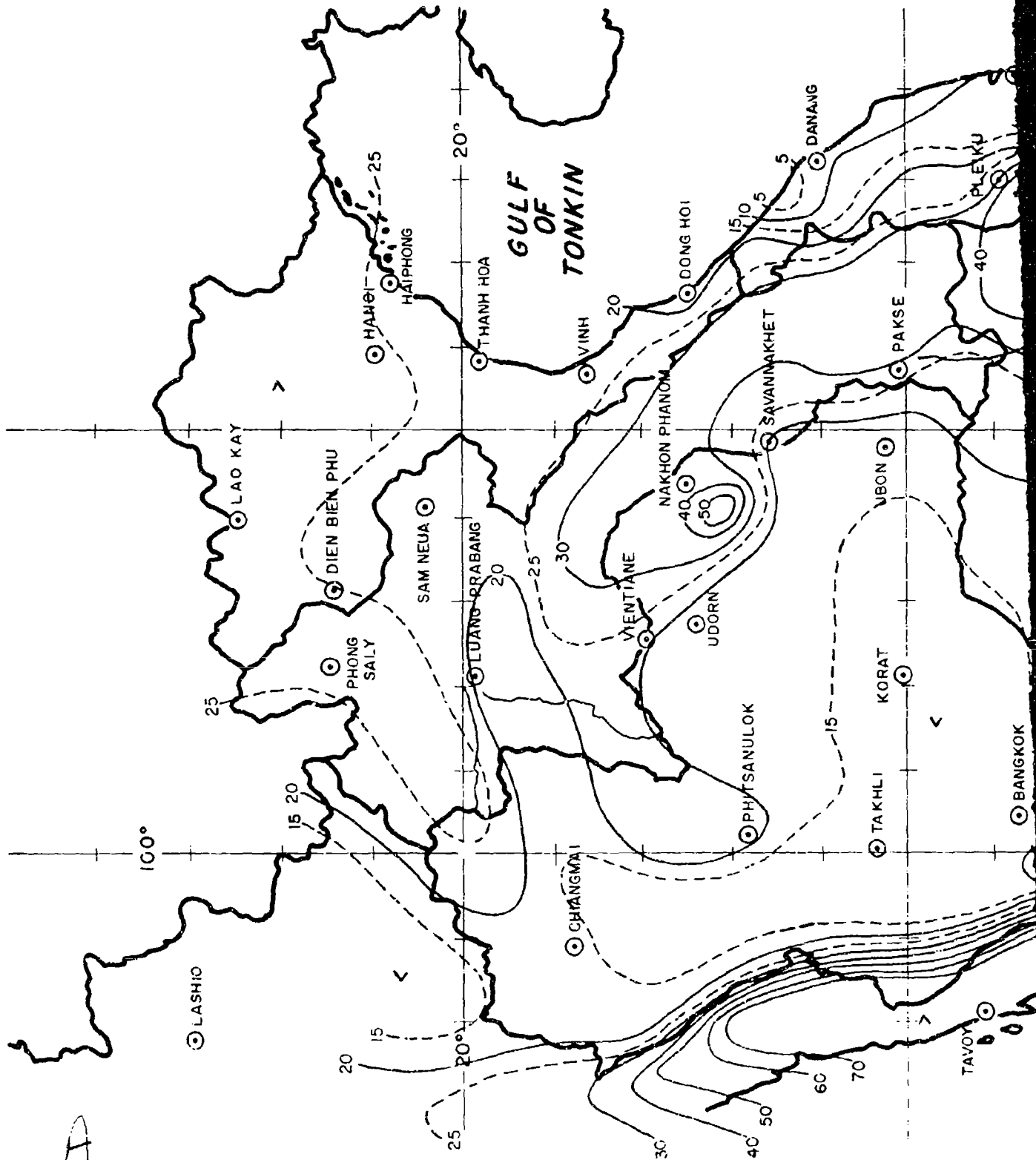


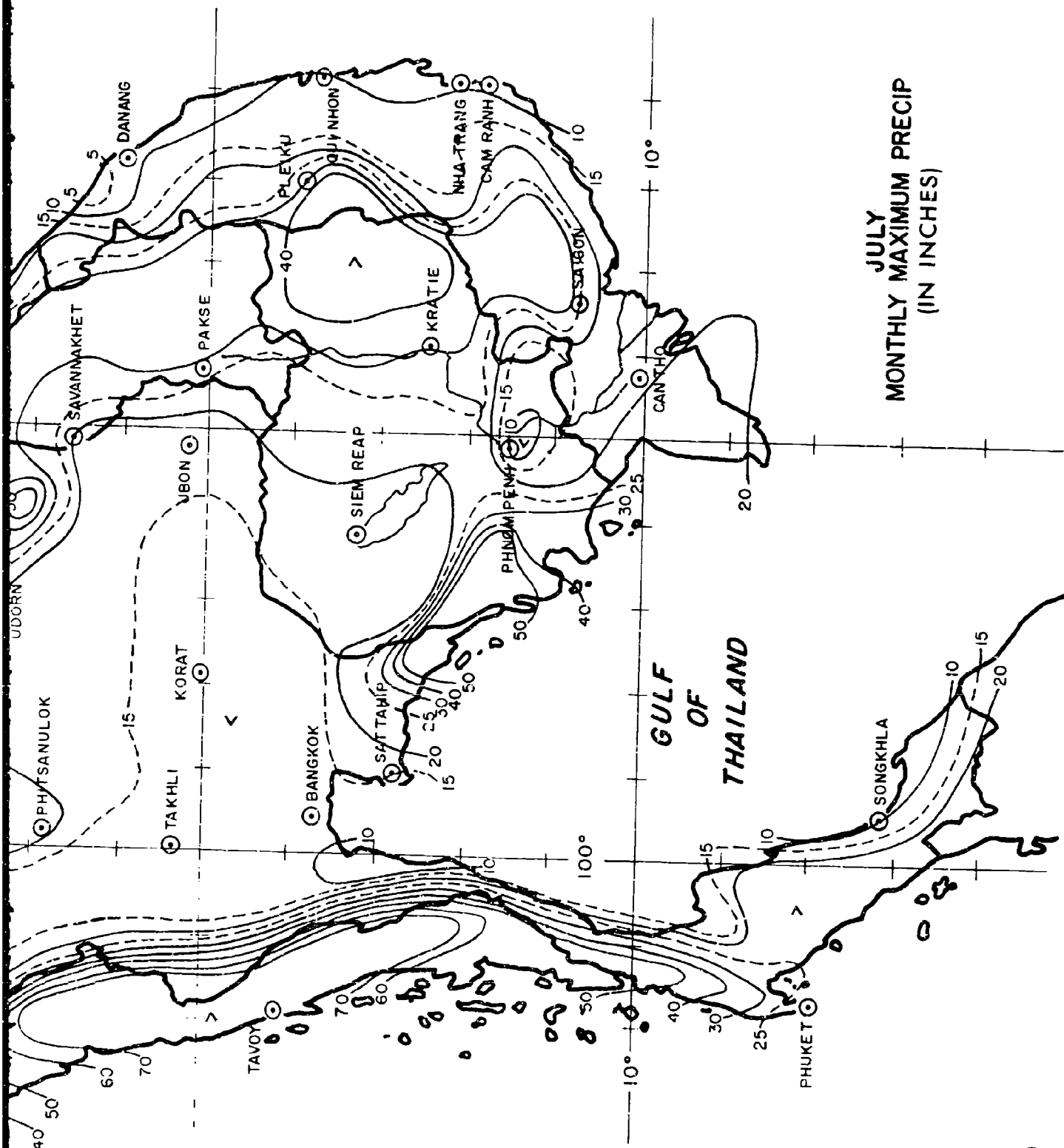


MAY
MONTHLY MAXIMUM PRECIP
(IN INCHES)

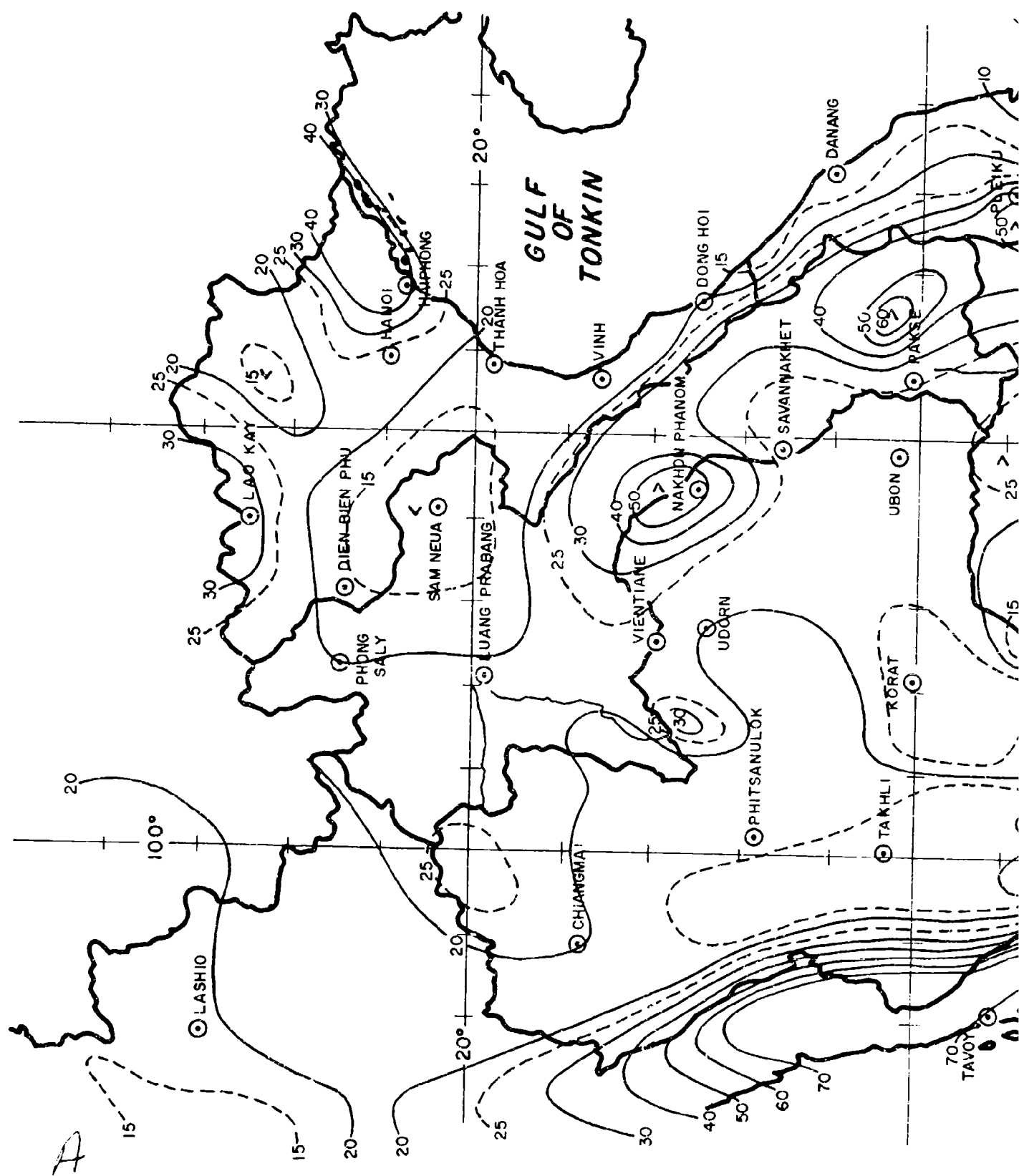


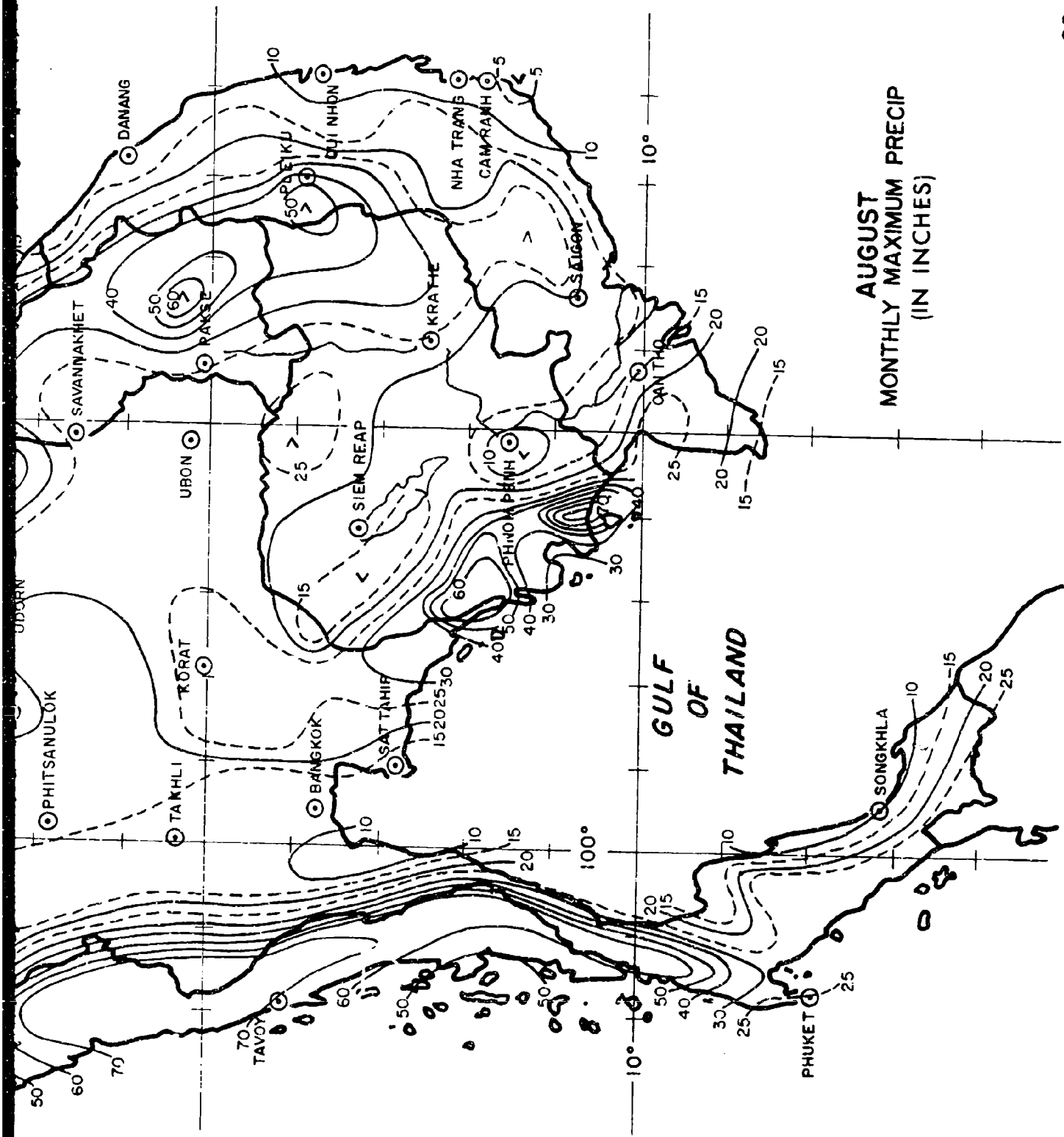




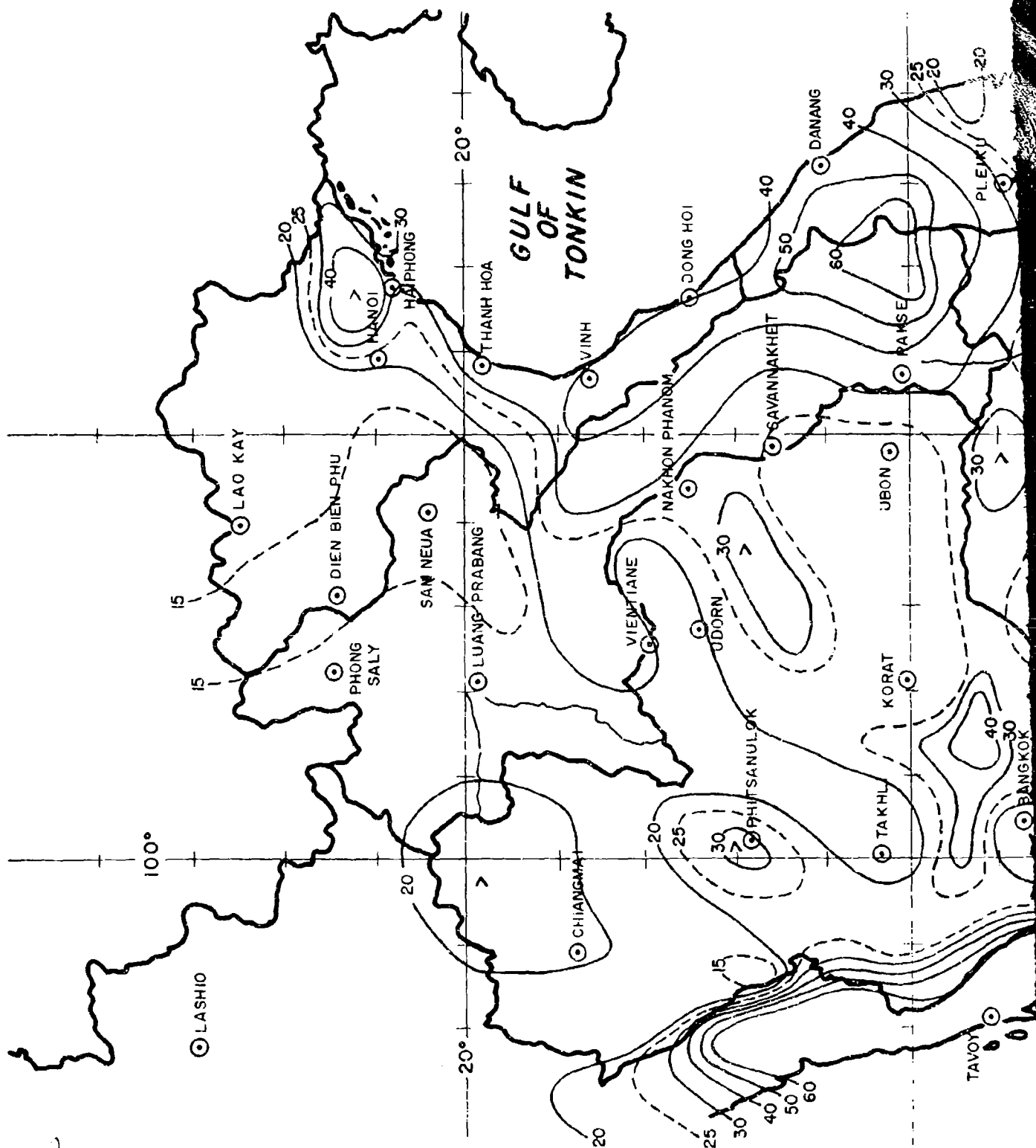


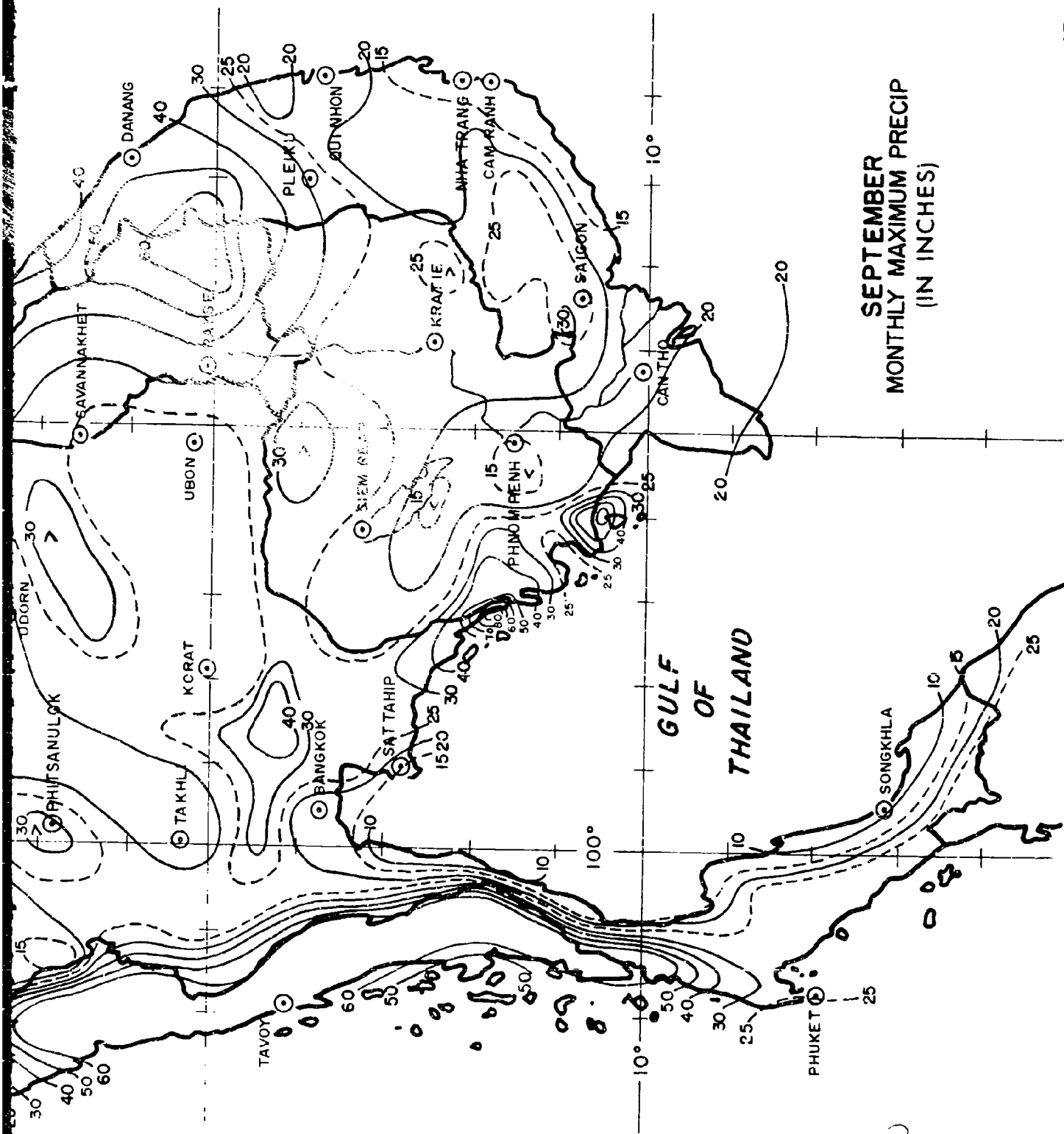
JULY
MONTHLY MAXIMUM PRECIP
(IN INCHES)

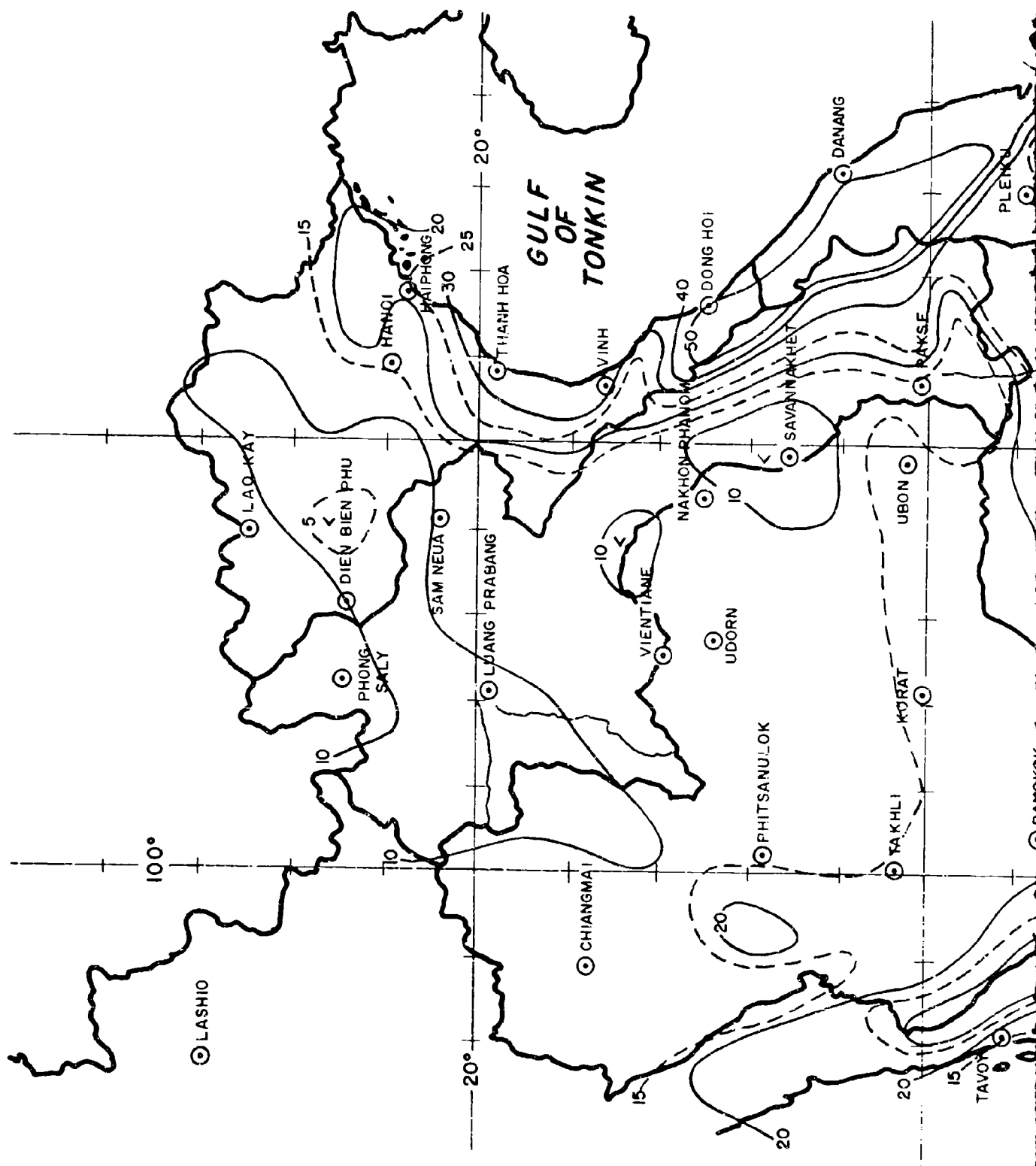


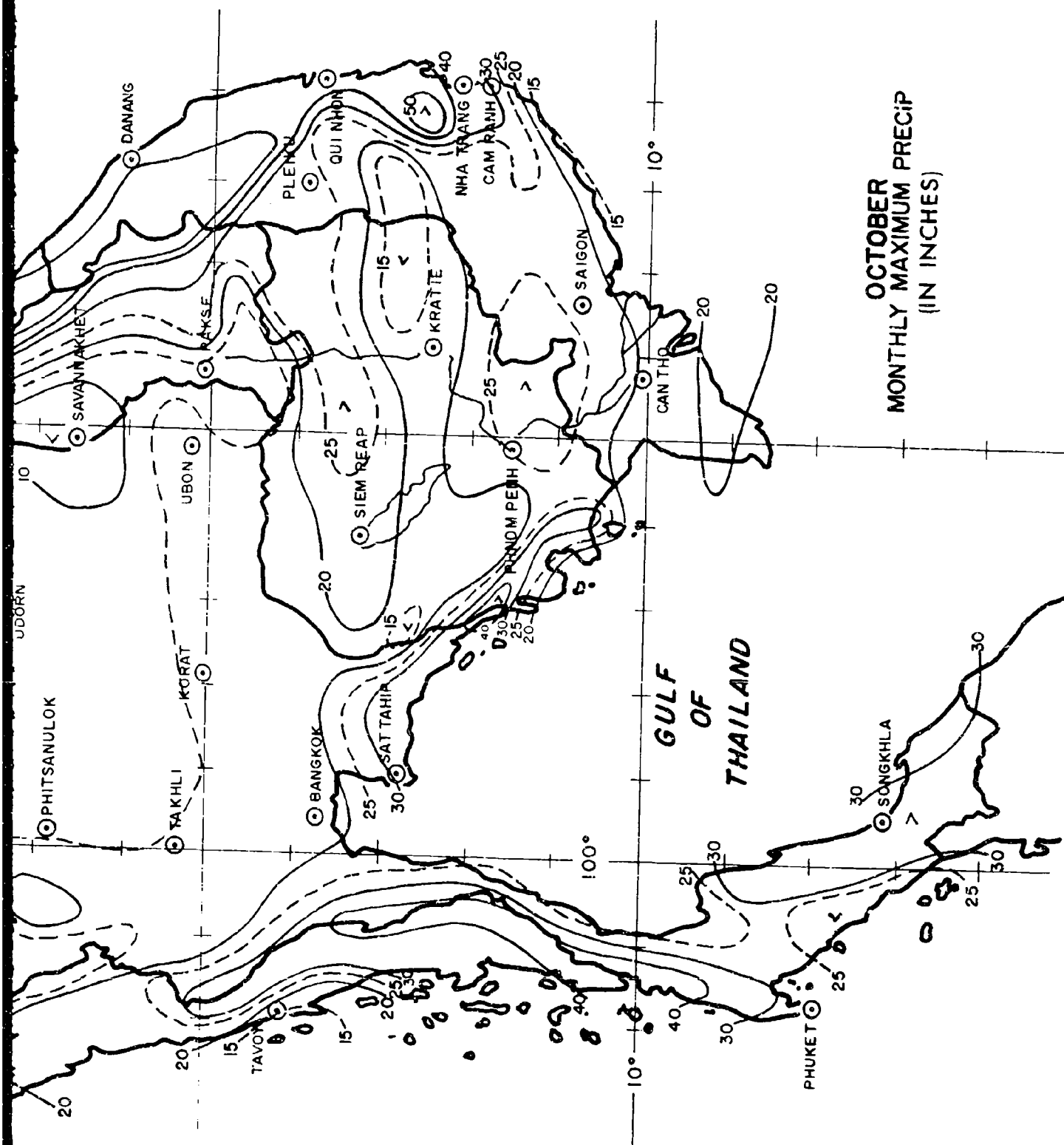


AUGUST
MONTHLY MAXIMUM PRECIP
(IN INCHES)

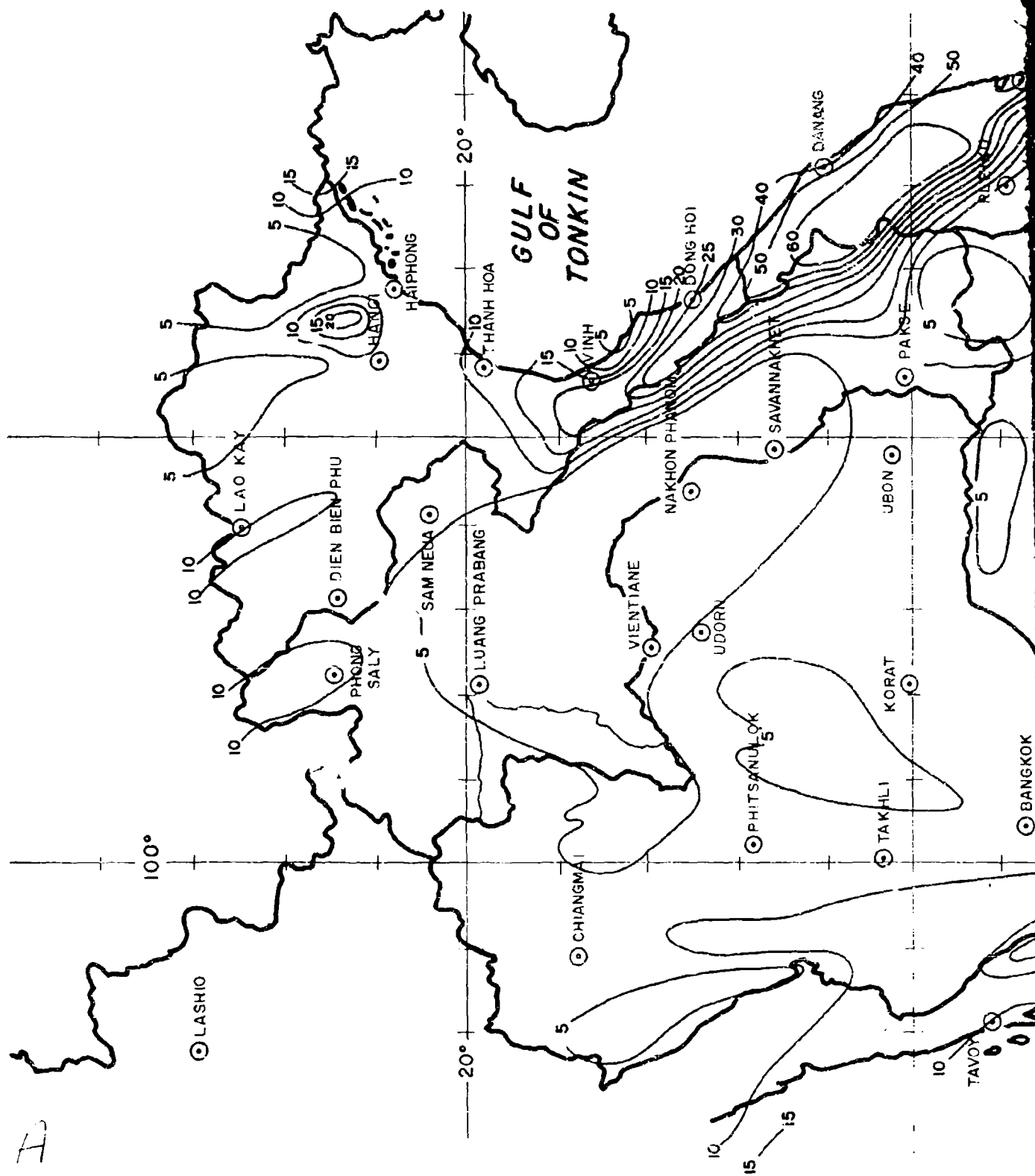


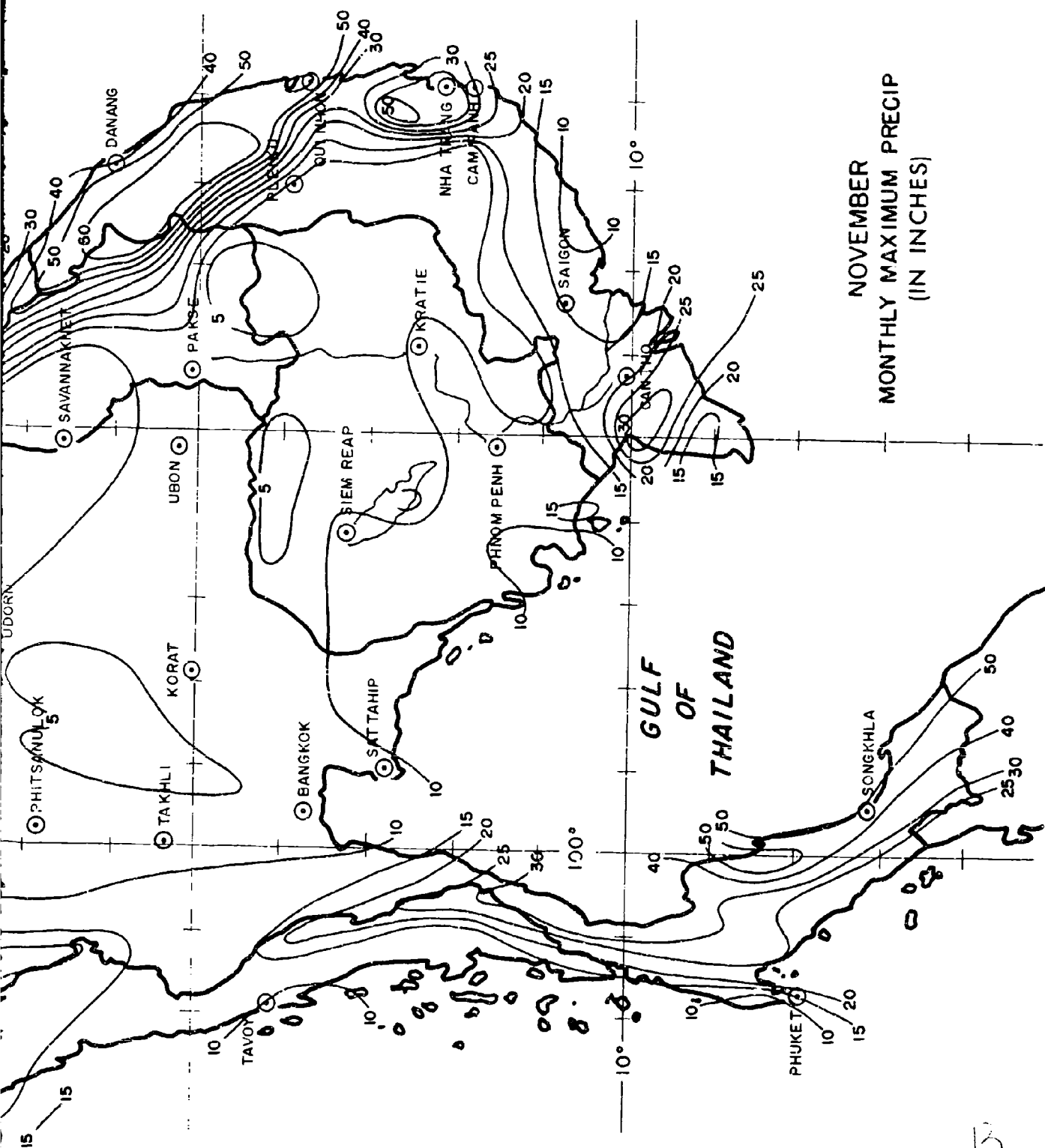




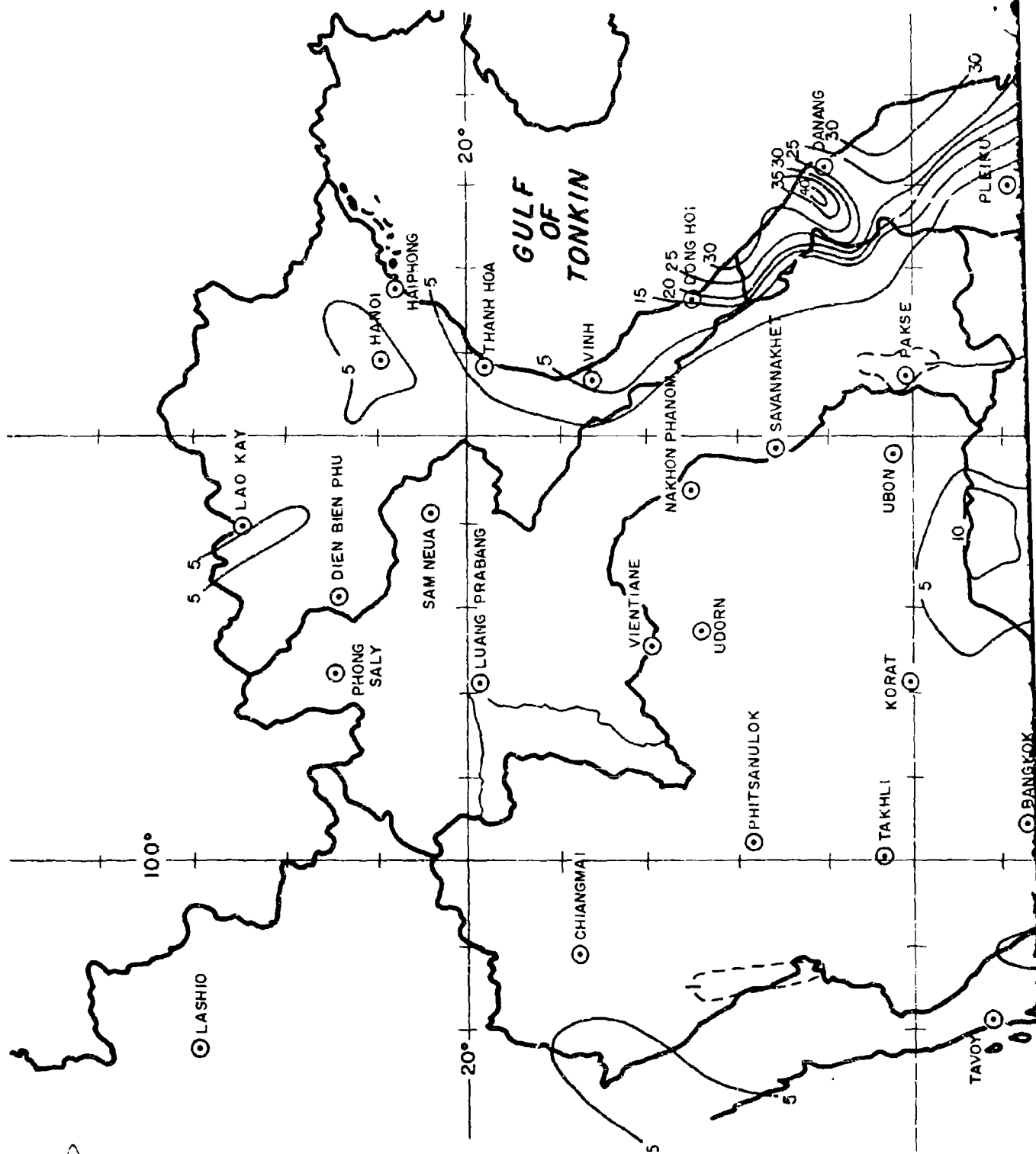


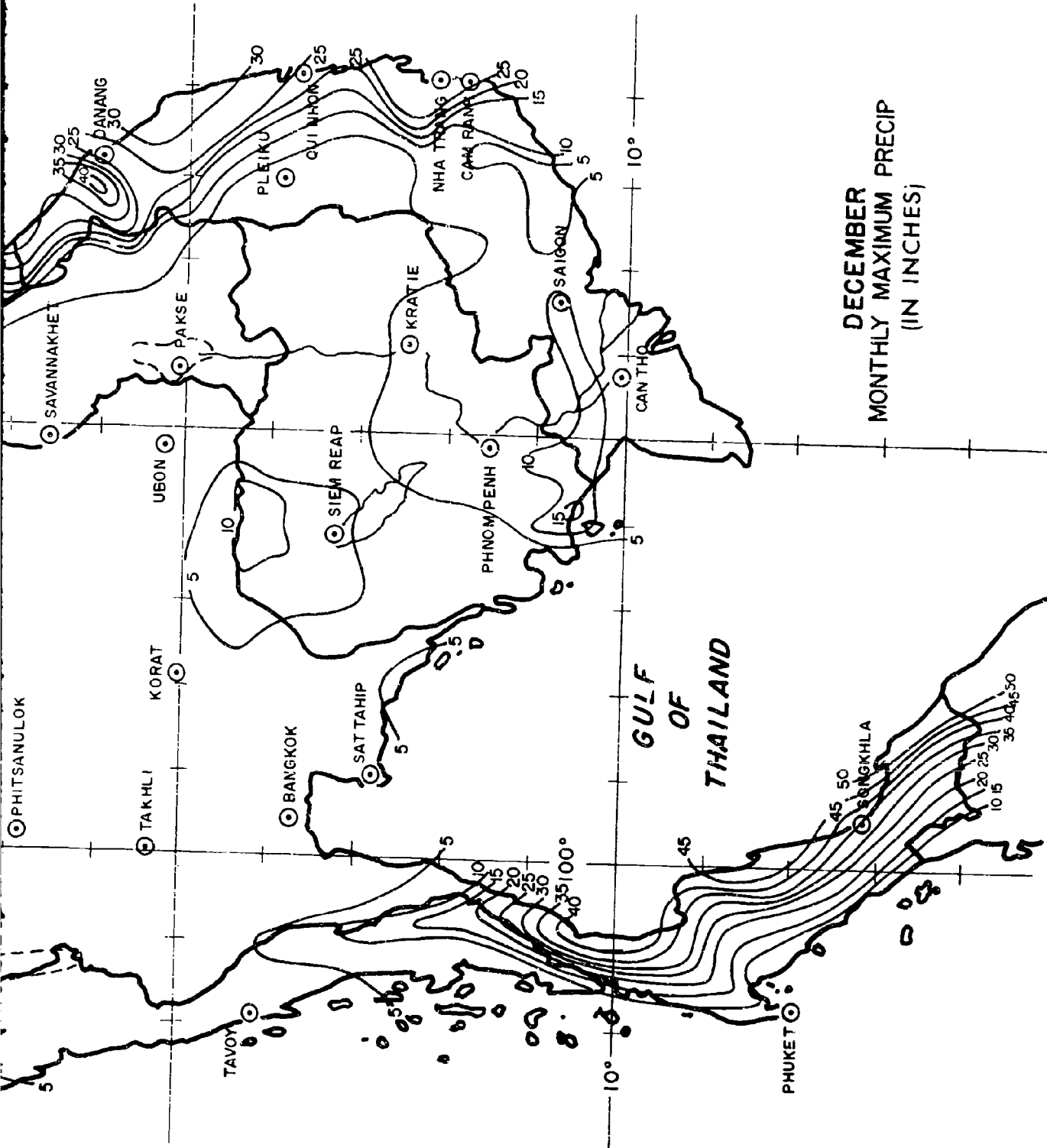
OCTOBER
MONTHLY MAXIMUM PRECIP
(IN INCHES)





NOVEMBER
MONTHLY MAXIMUM PRECIP
(IN INCHES)

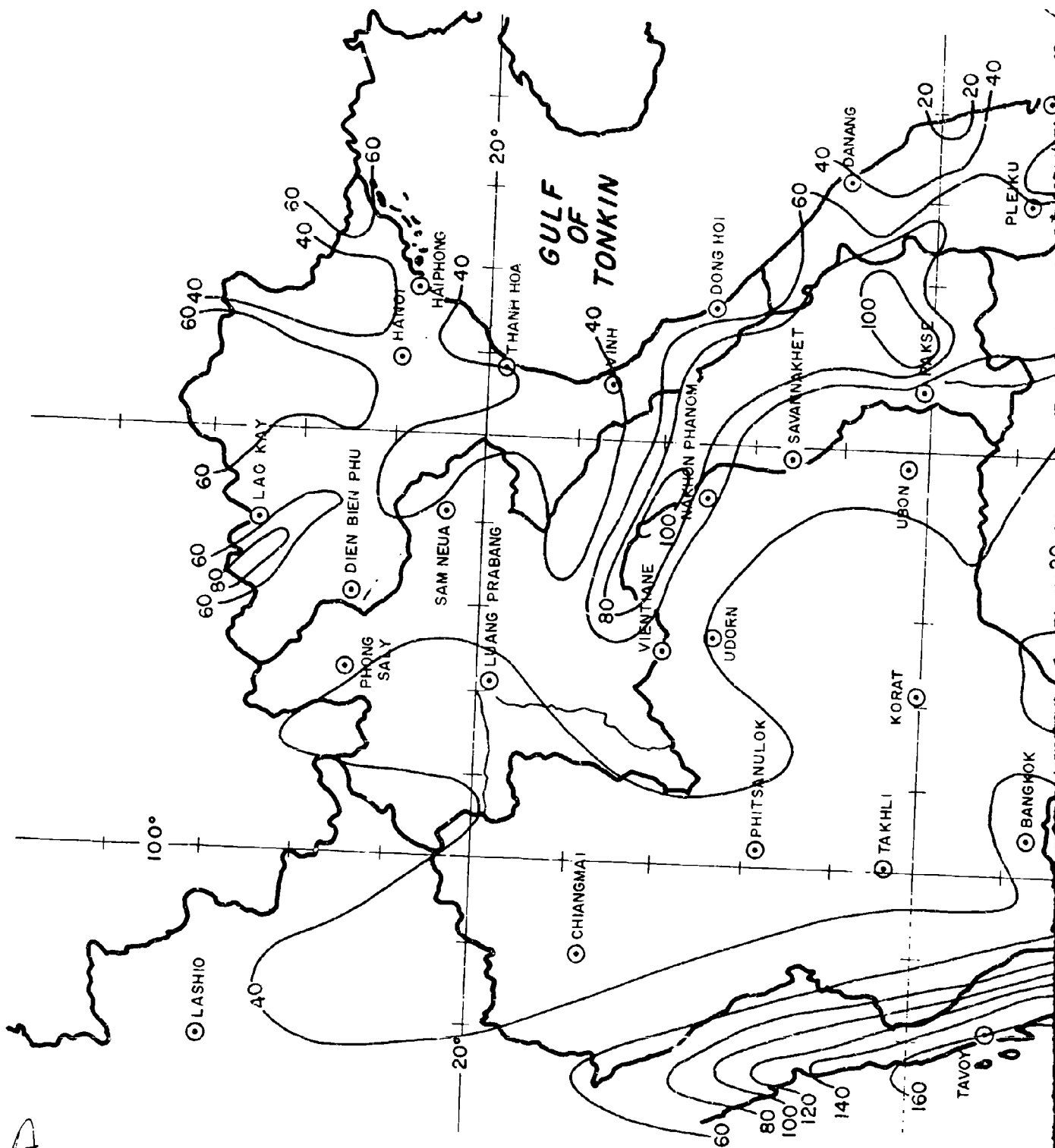


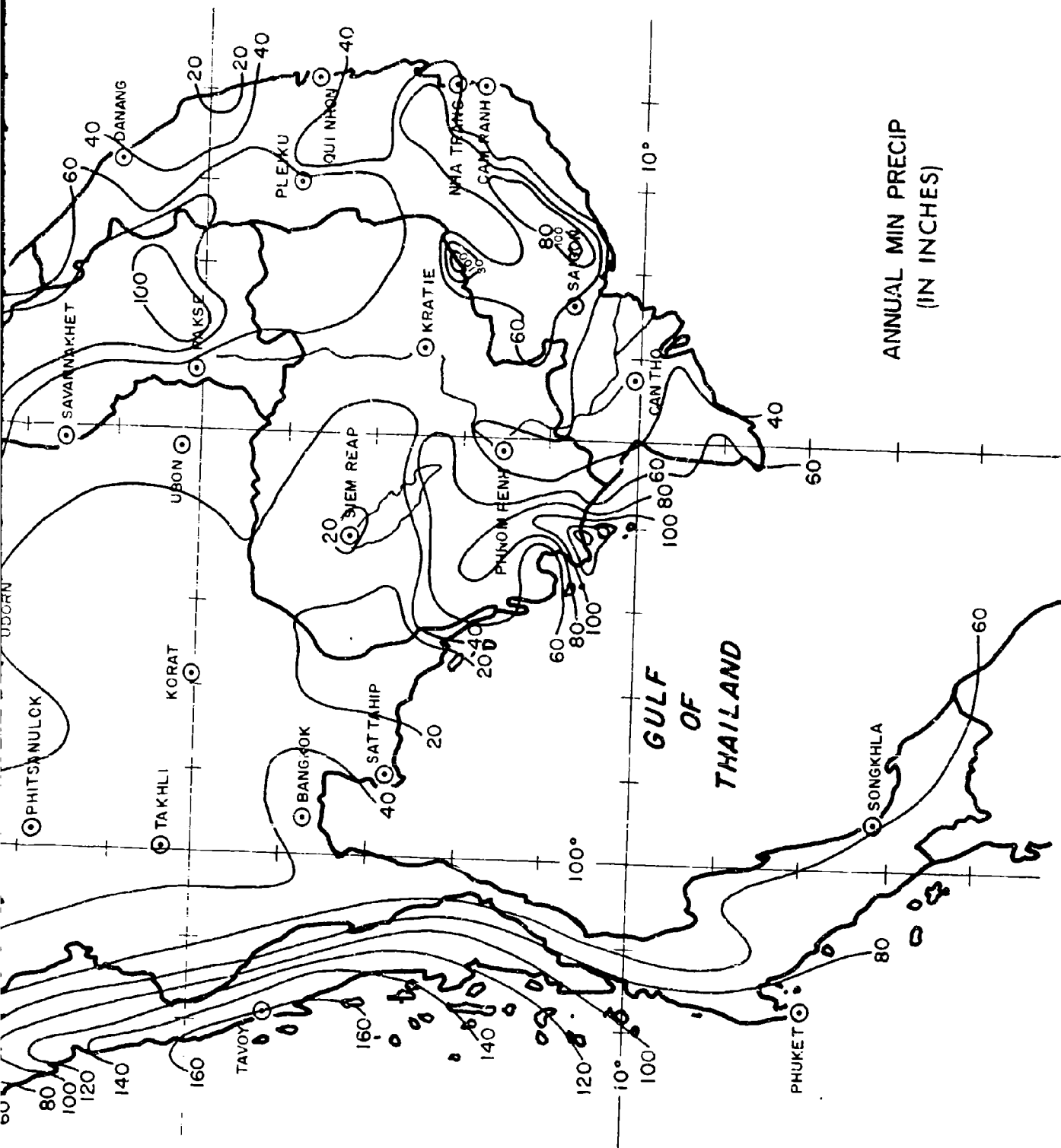


DECEMBER
MONTHLY MAXIMUM PRECIP
(IN INCHES)

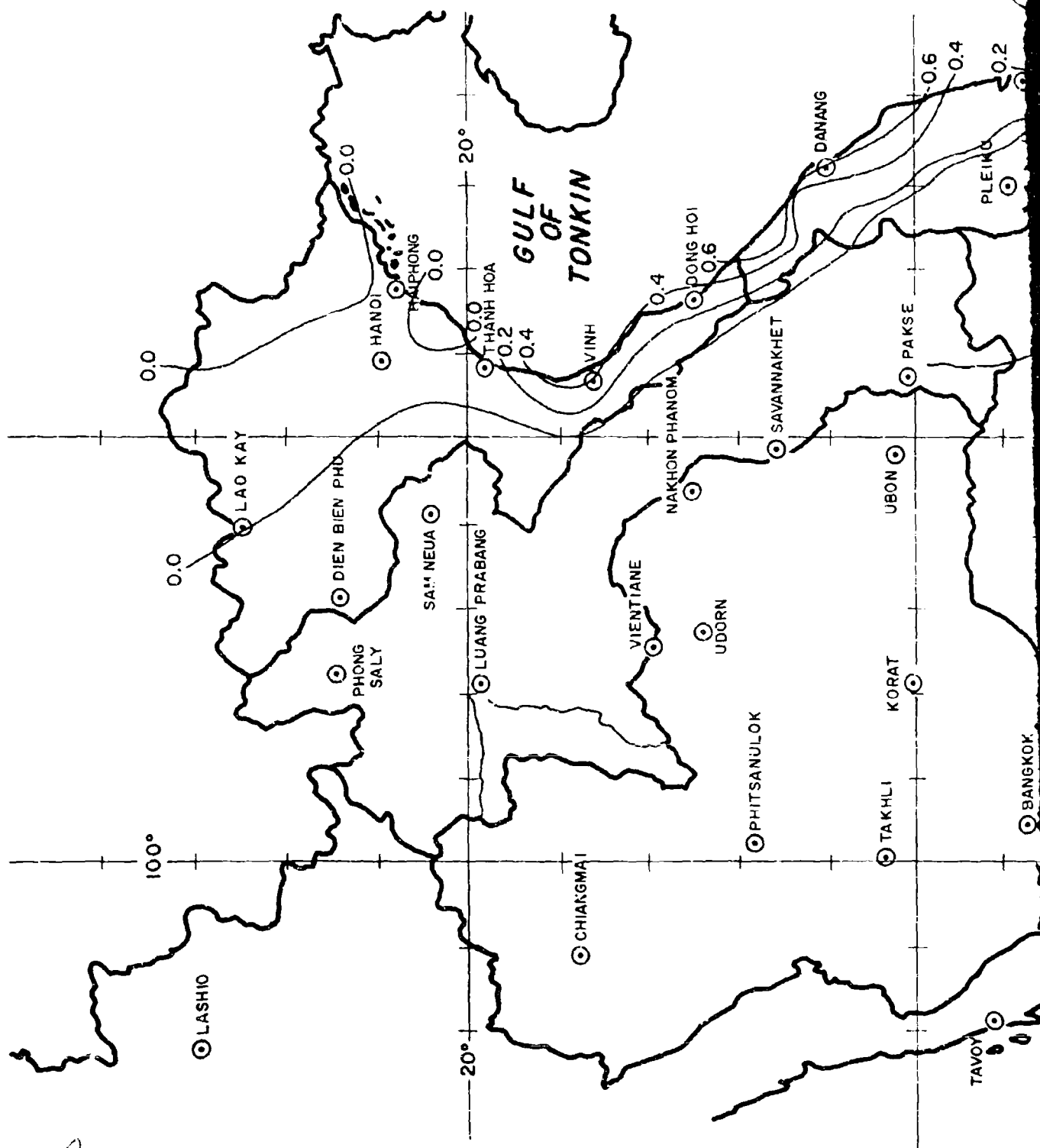
SECTION III

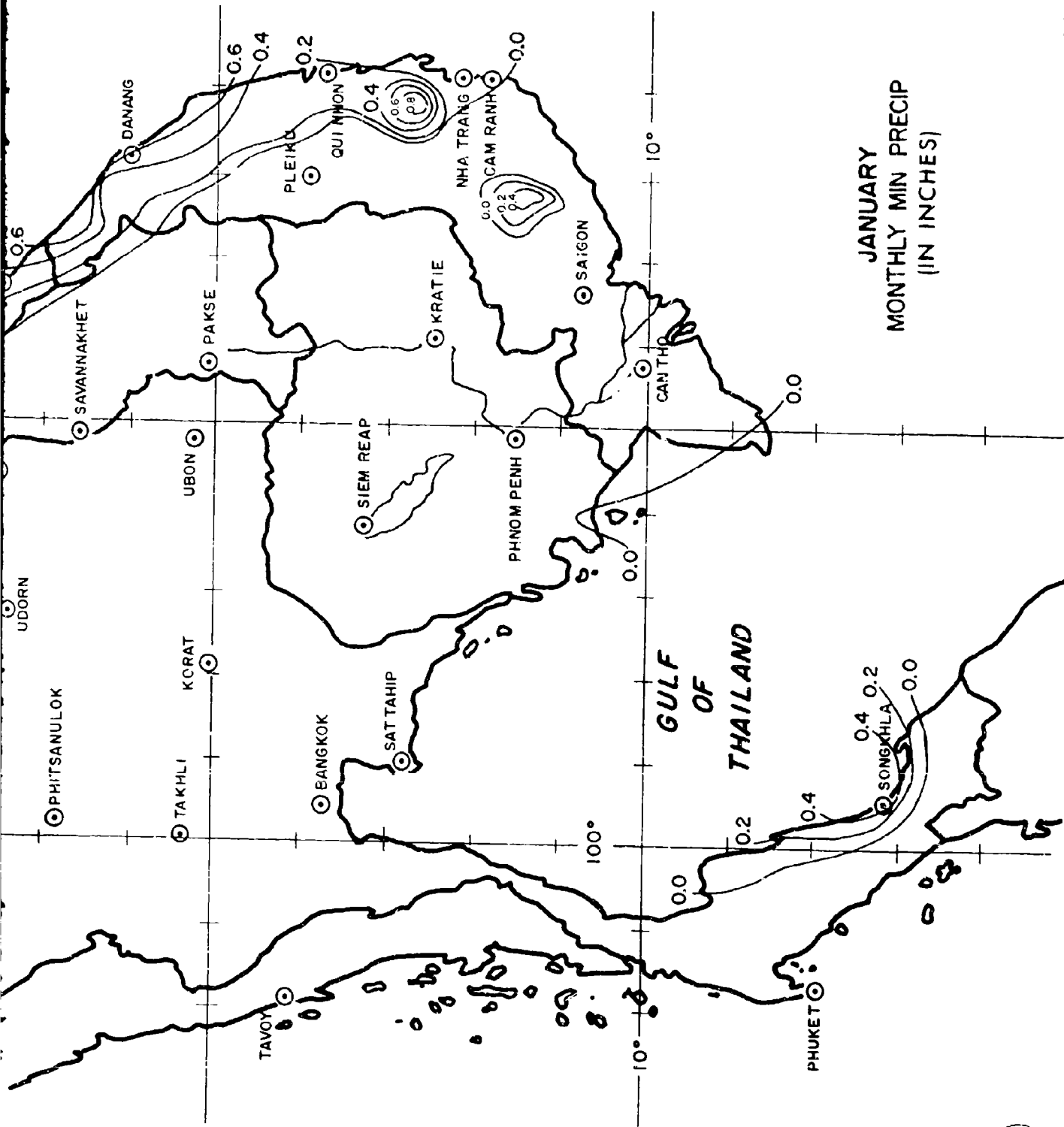
**MINIMUM
PRECIPITATION**



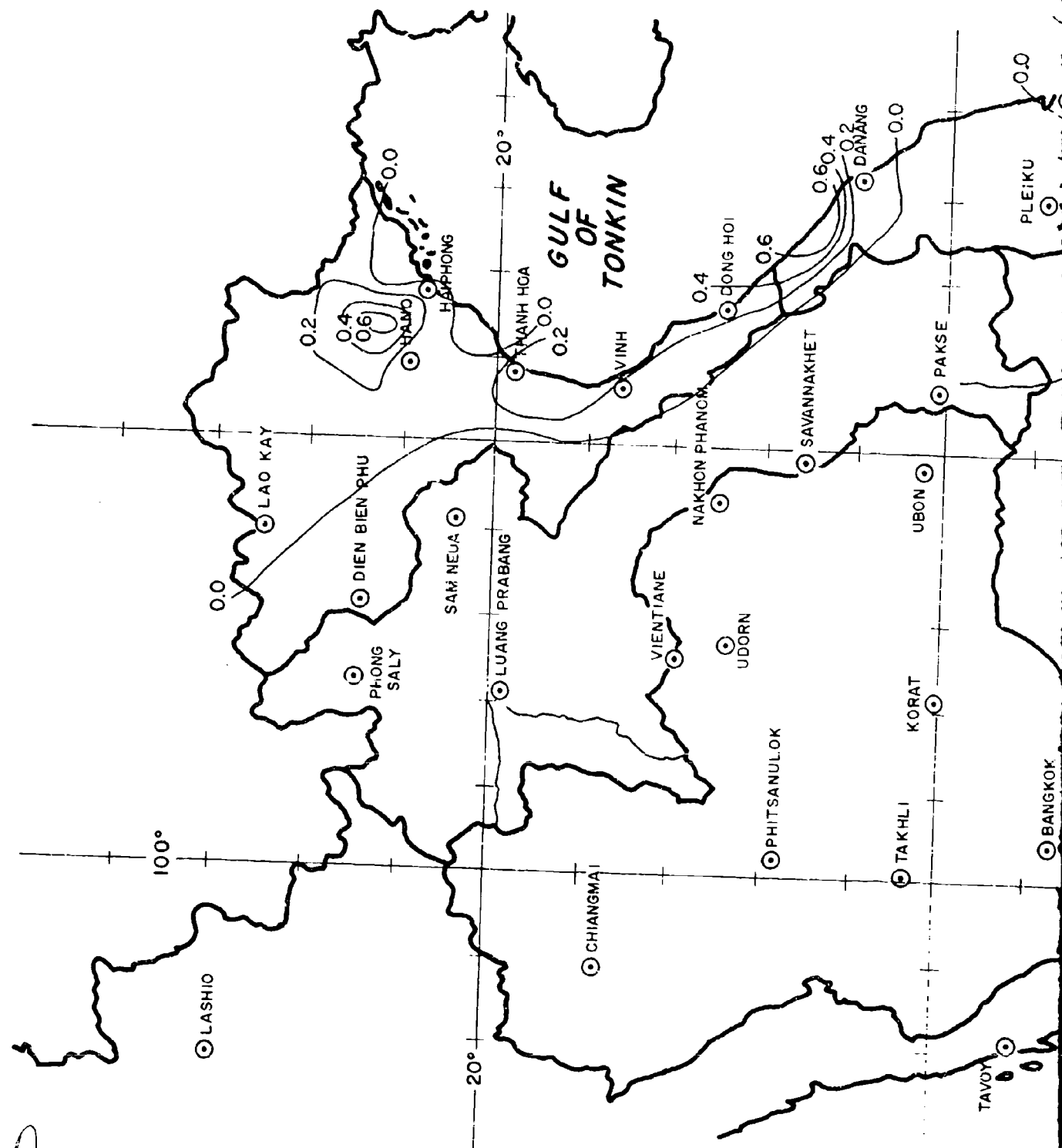


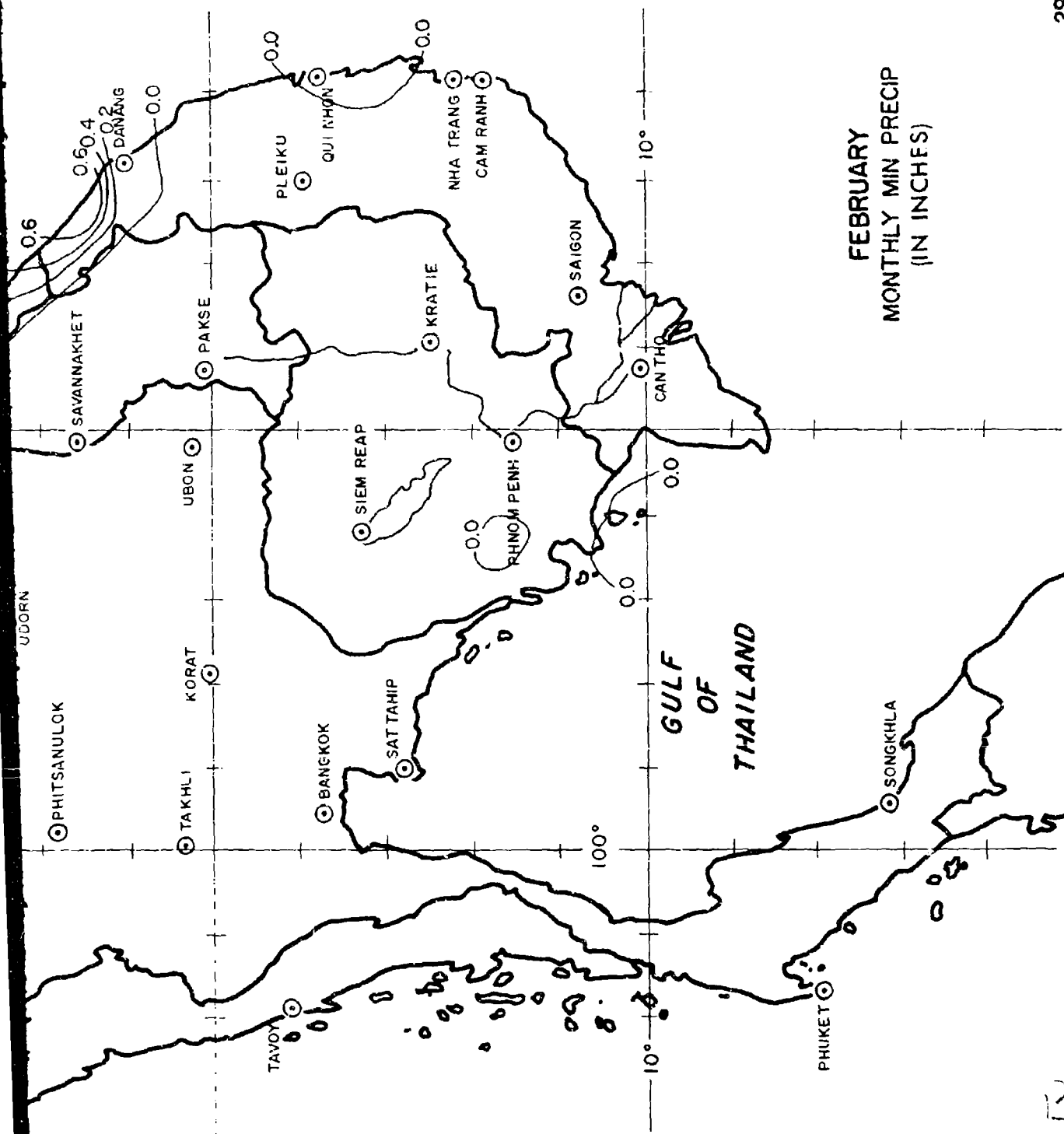
B



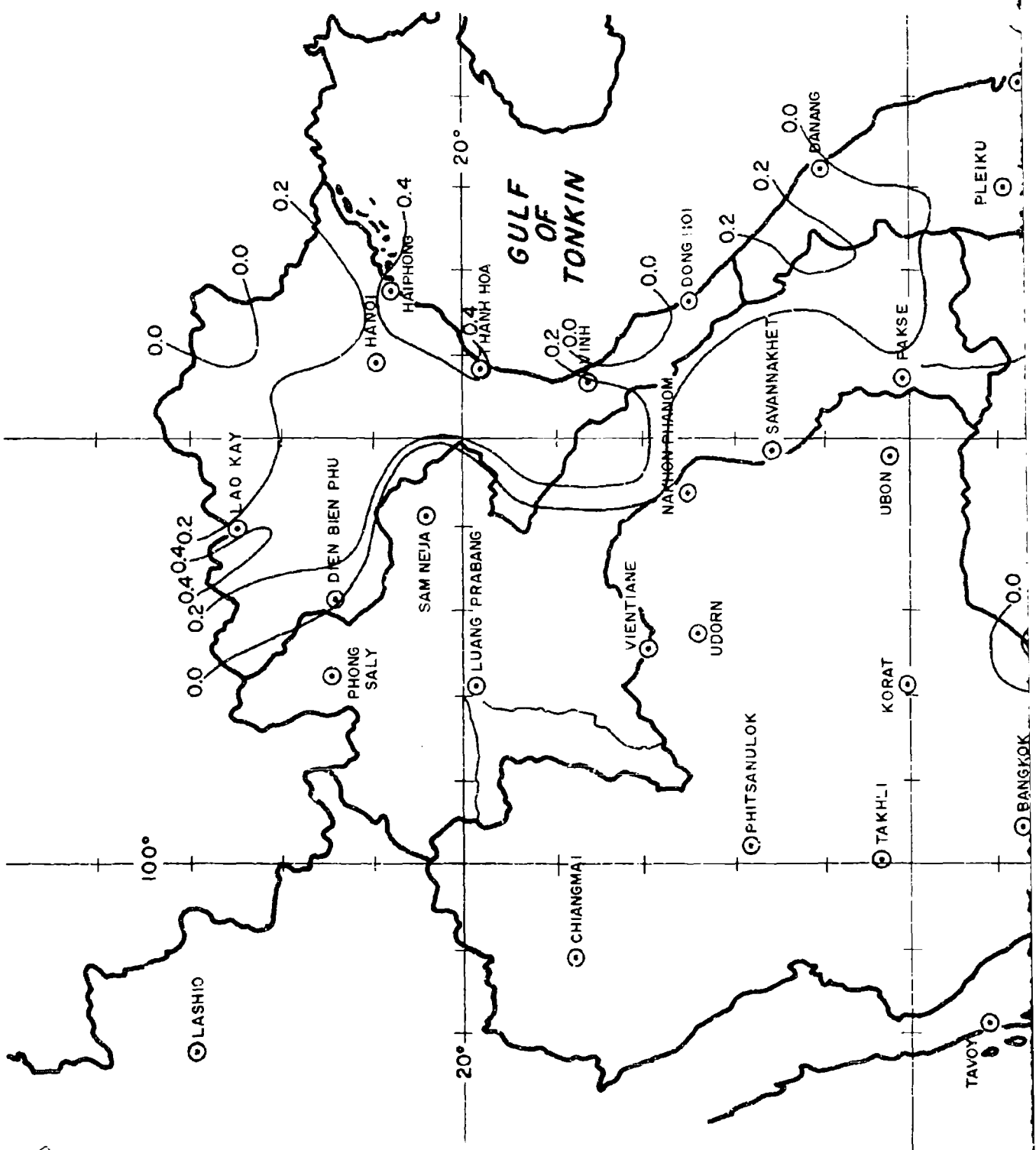


JANUARY
MONTHLY MIN PRECIP
(IN INCHES)

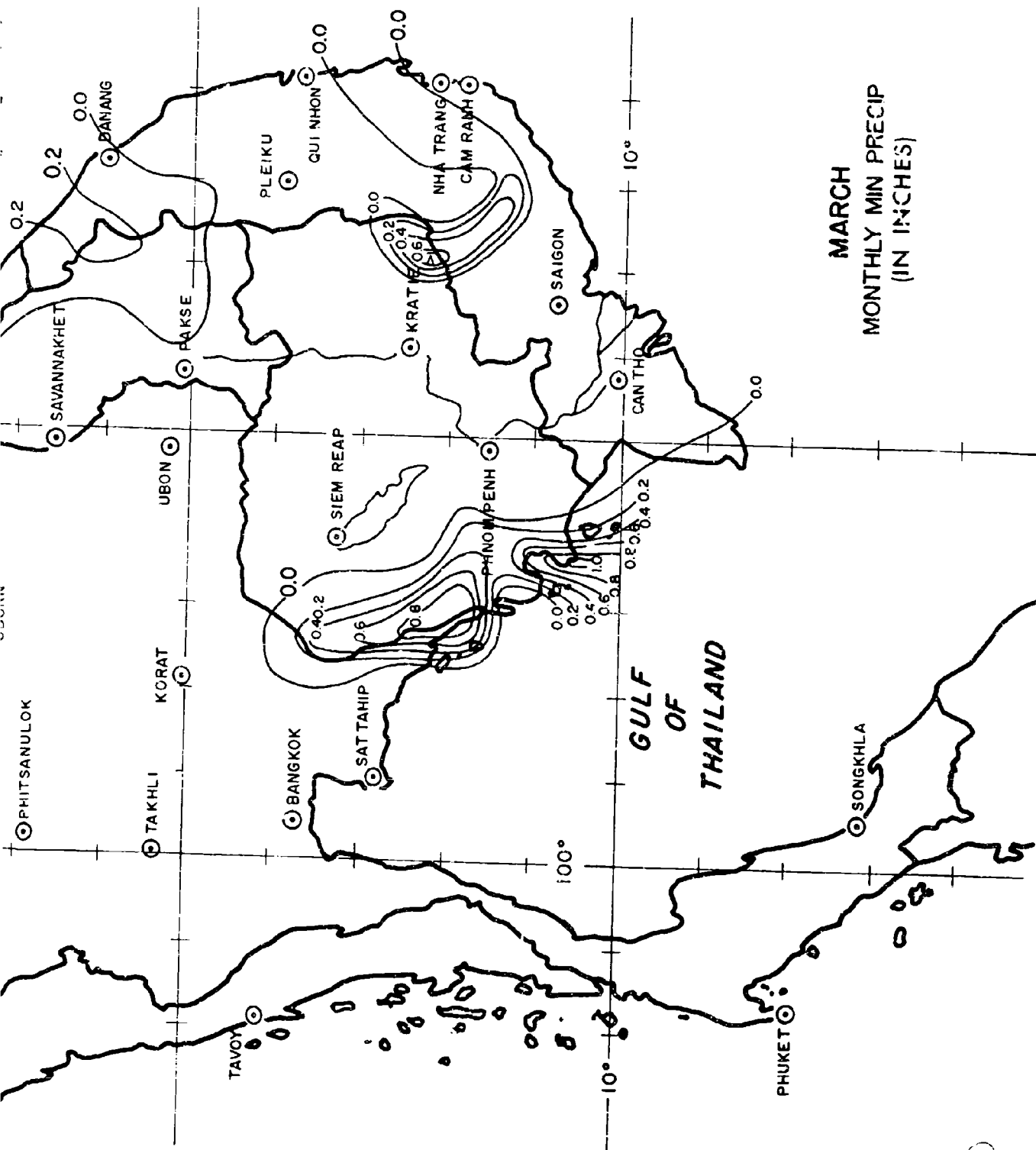




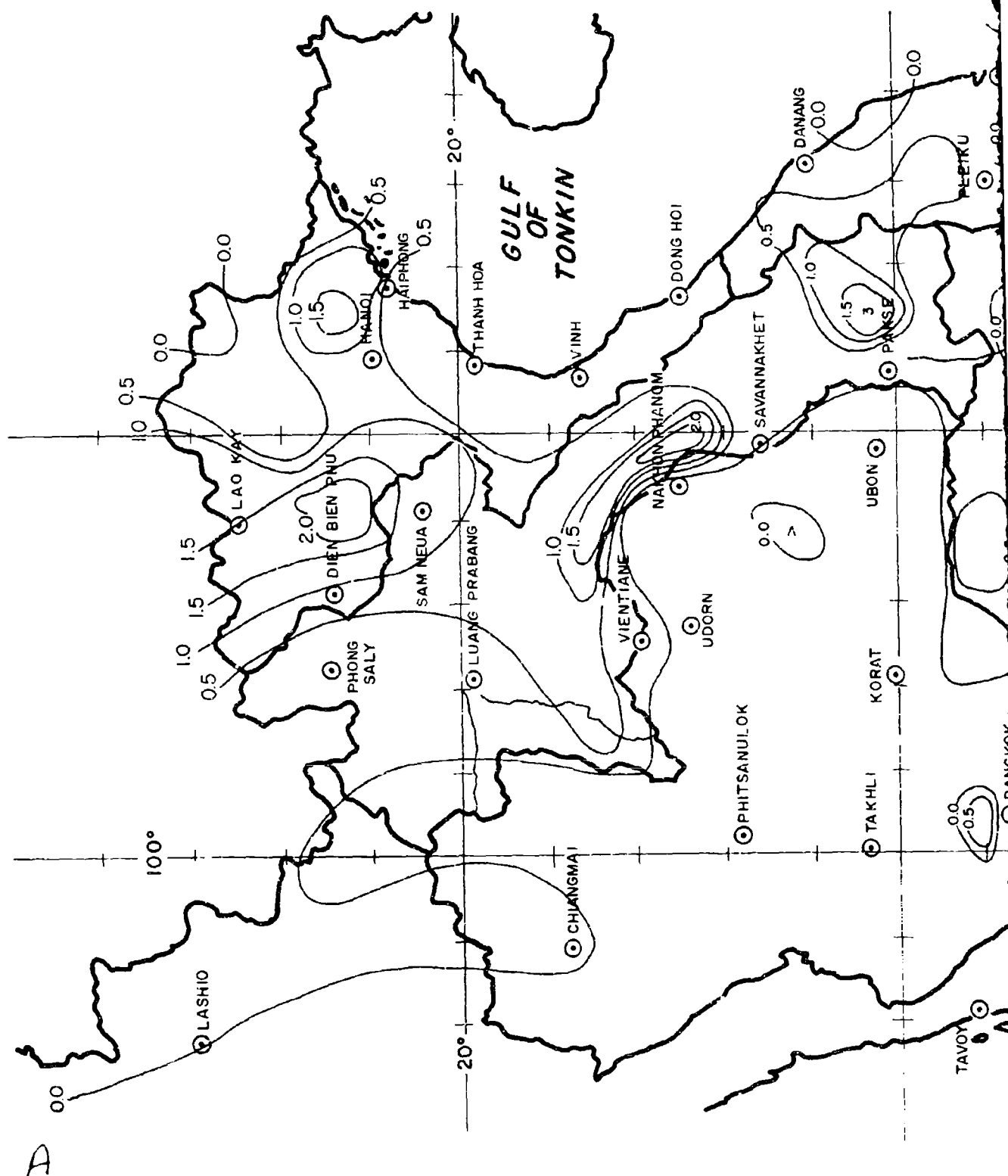
FEBRUARY
MONTHLY MIN PRECIP
(IN INCHES)



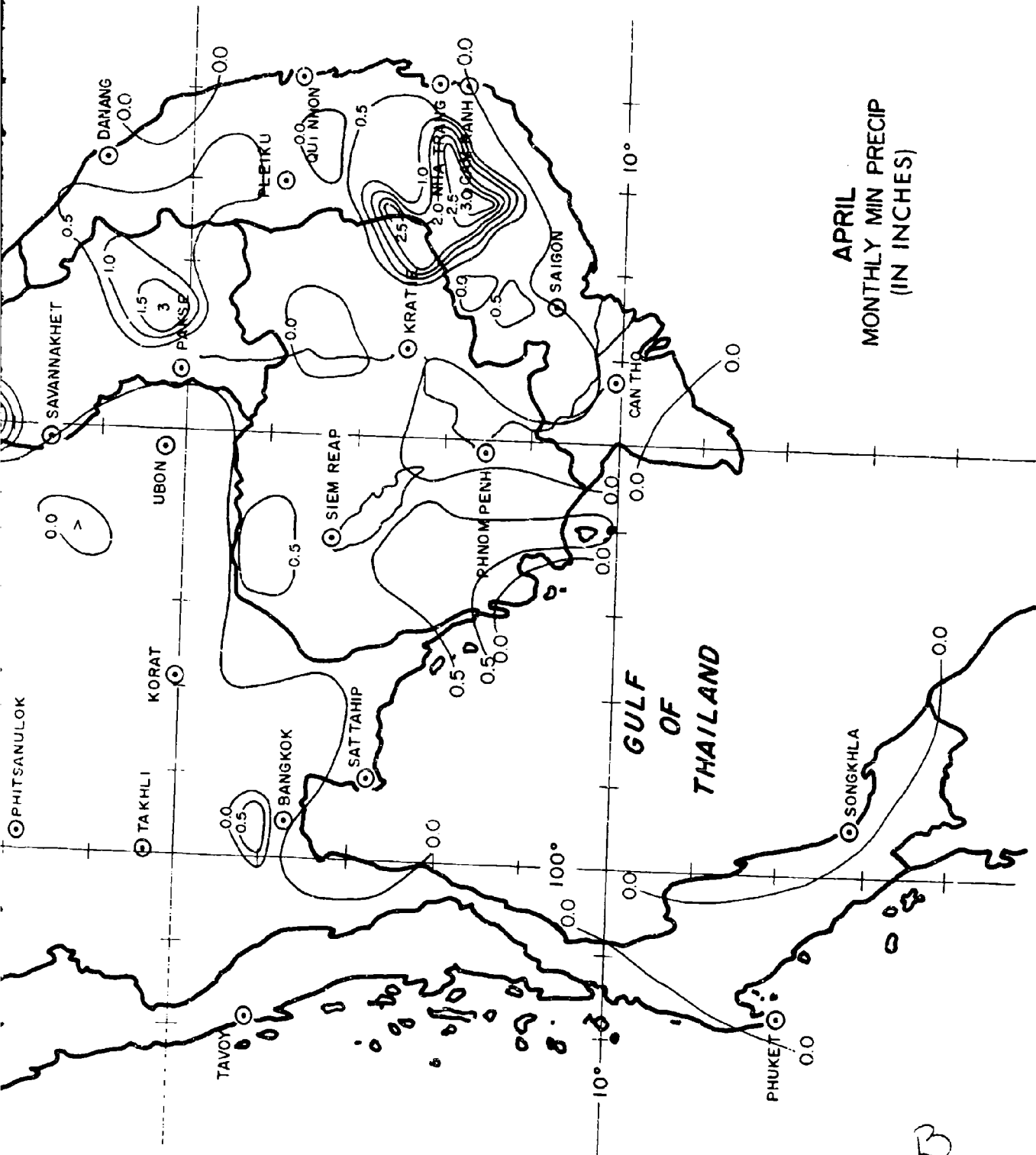
A



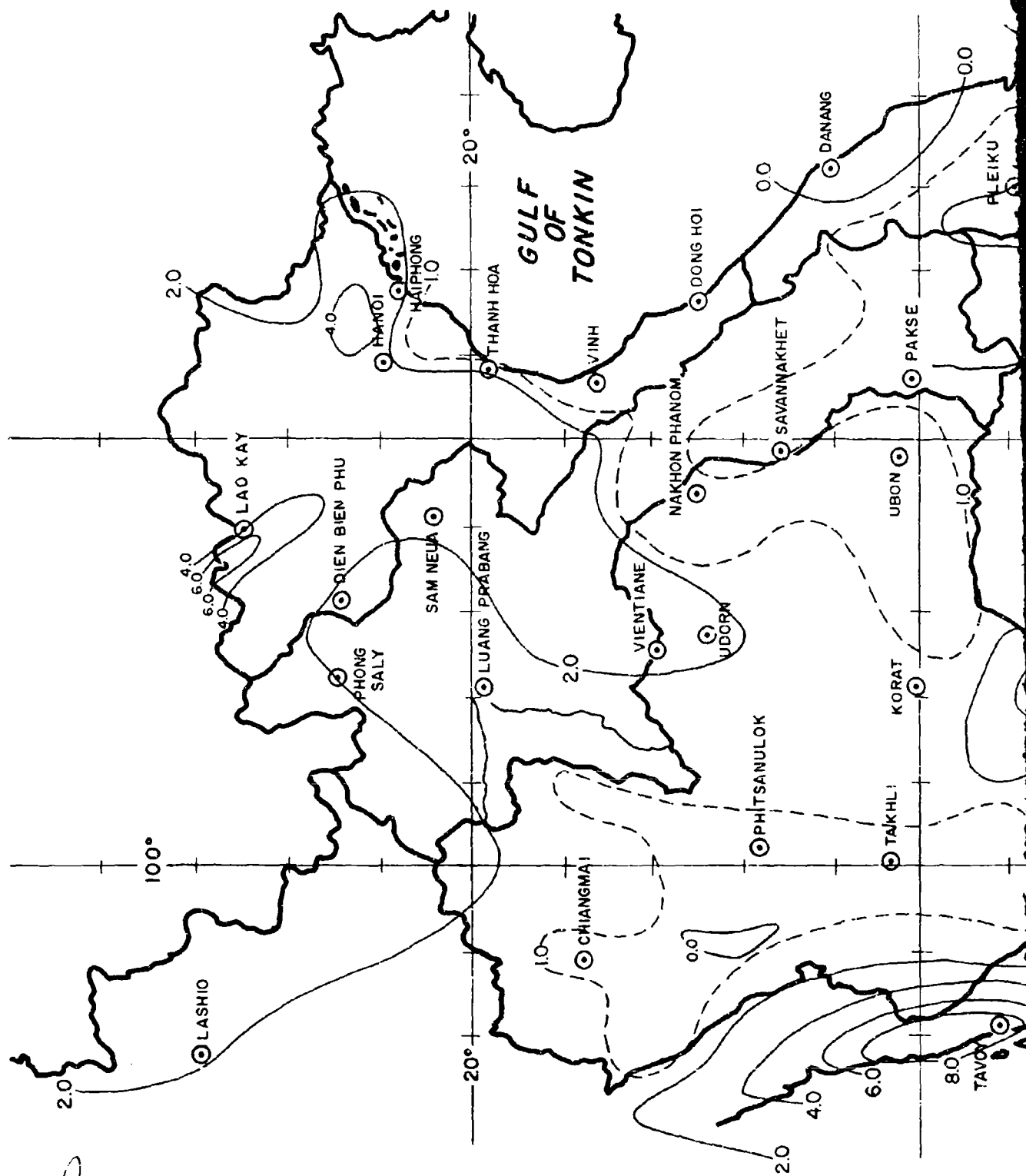
MARCH
MONTHLY MIN PRECIP
(IN INCHES)



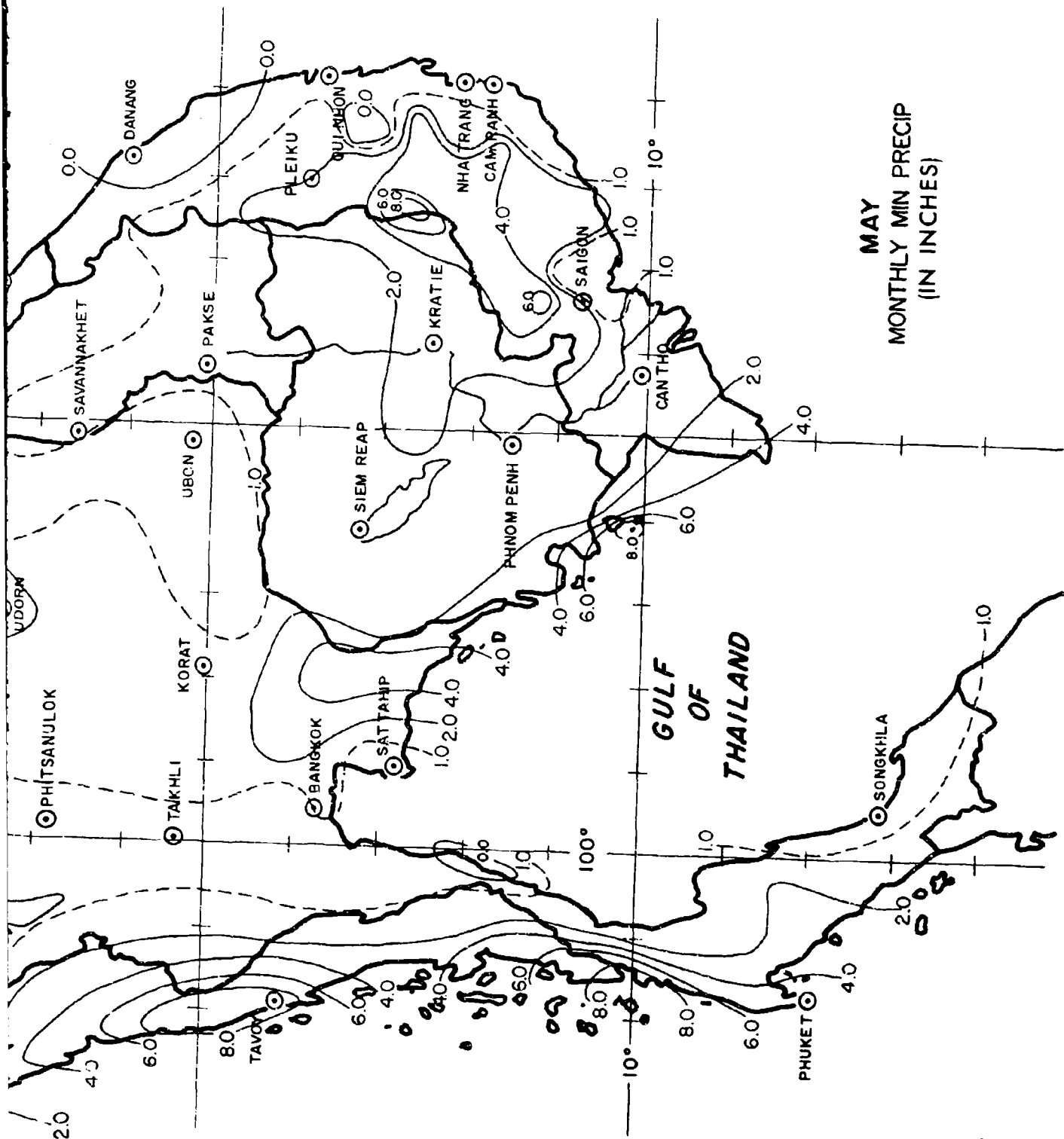
A



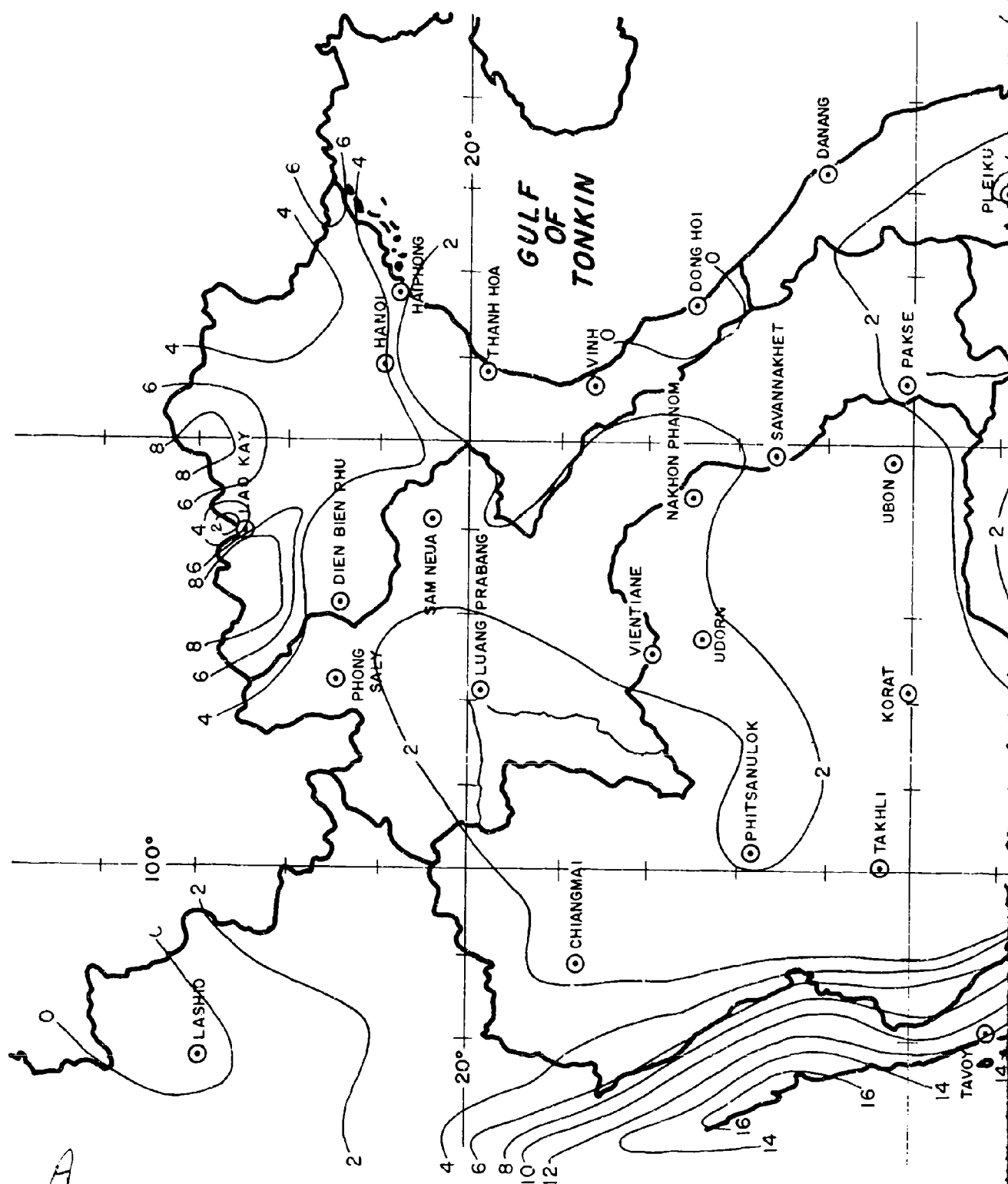
APRIL
MONTHLY MIN PRECIP
(IN INCHES)

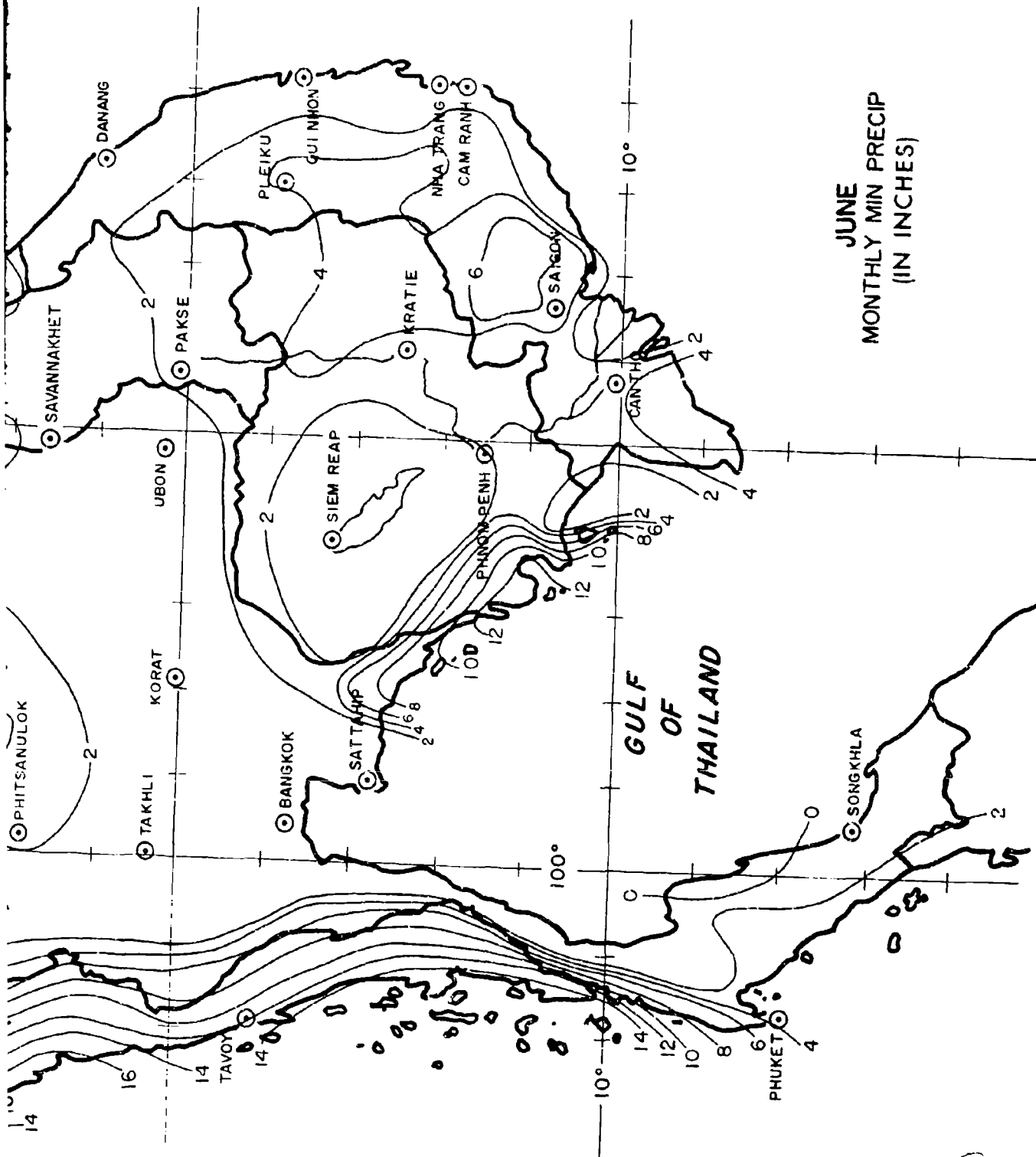


D

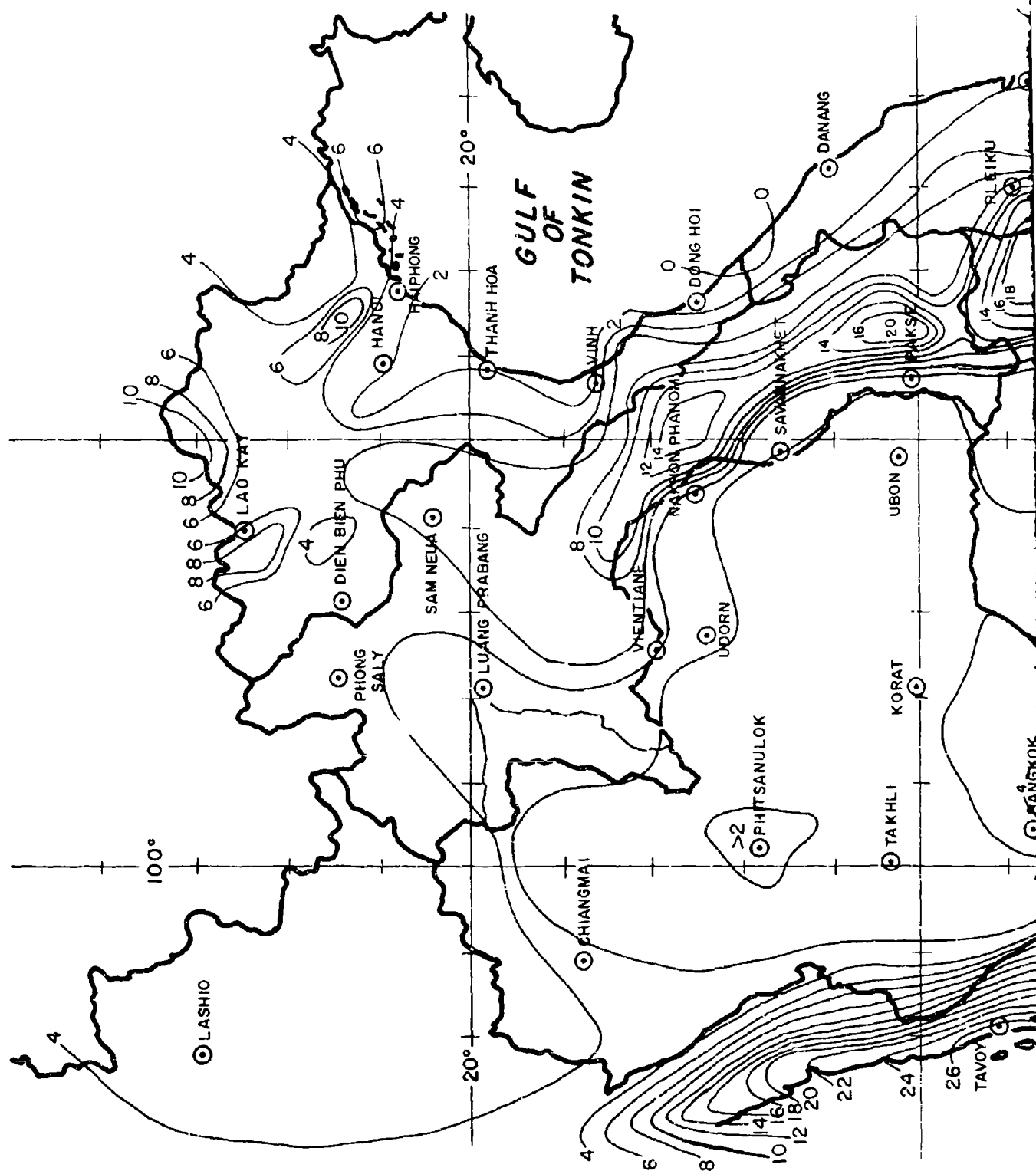


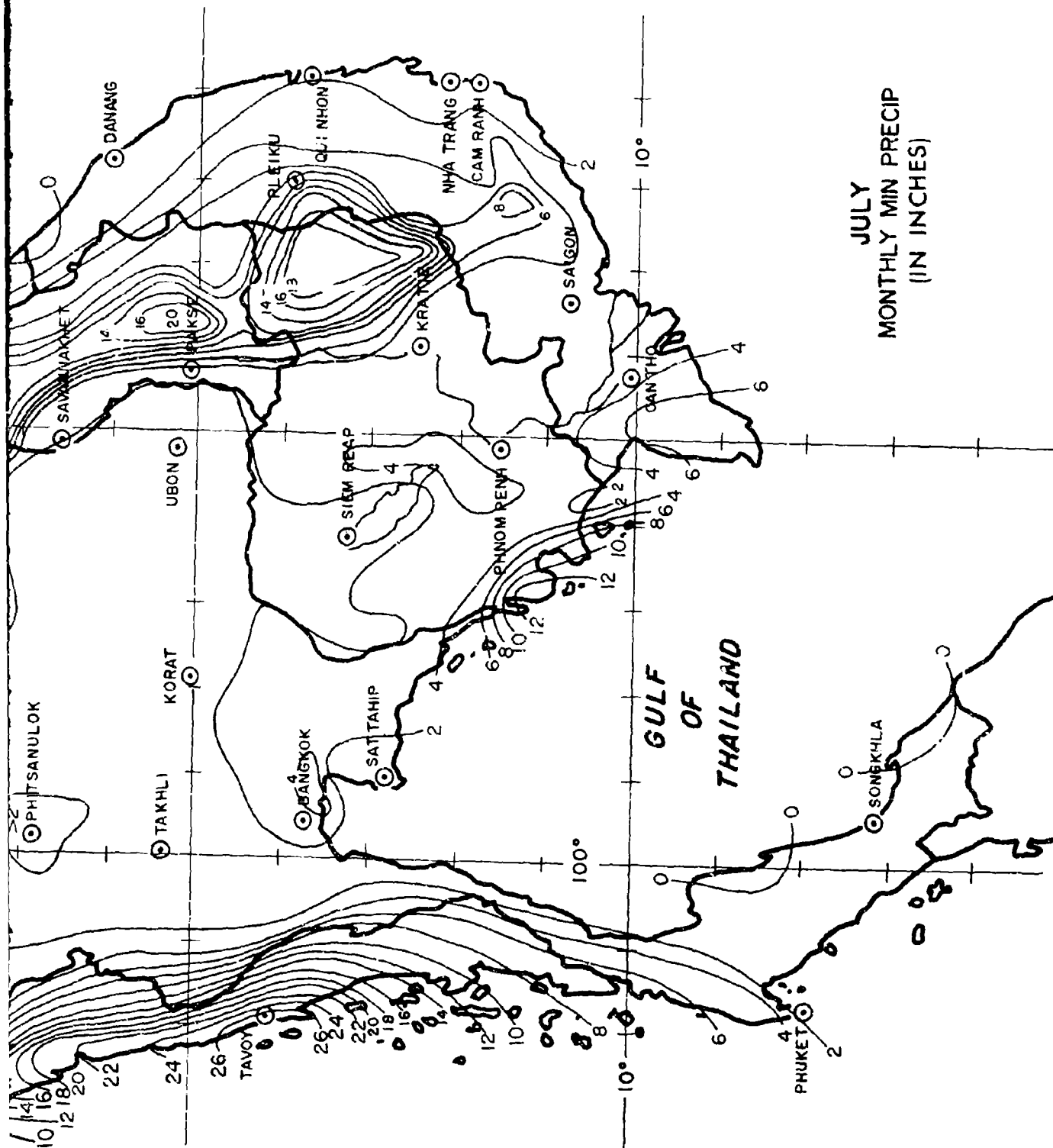
MAY
MONTHLY MIN PRECIP
(IN INCHES)



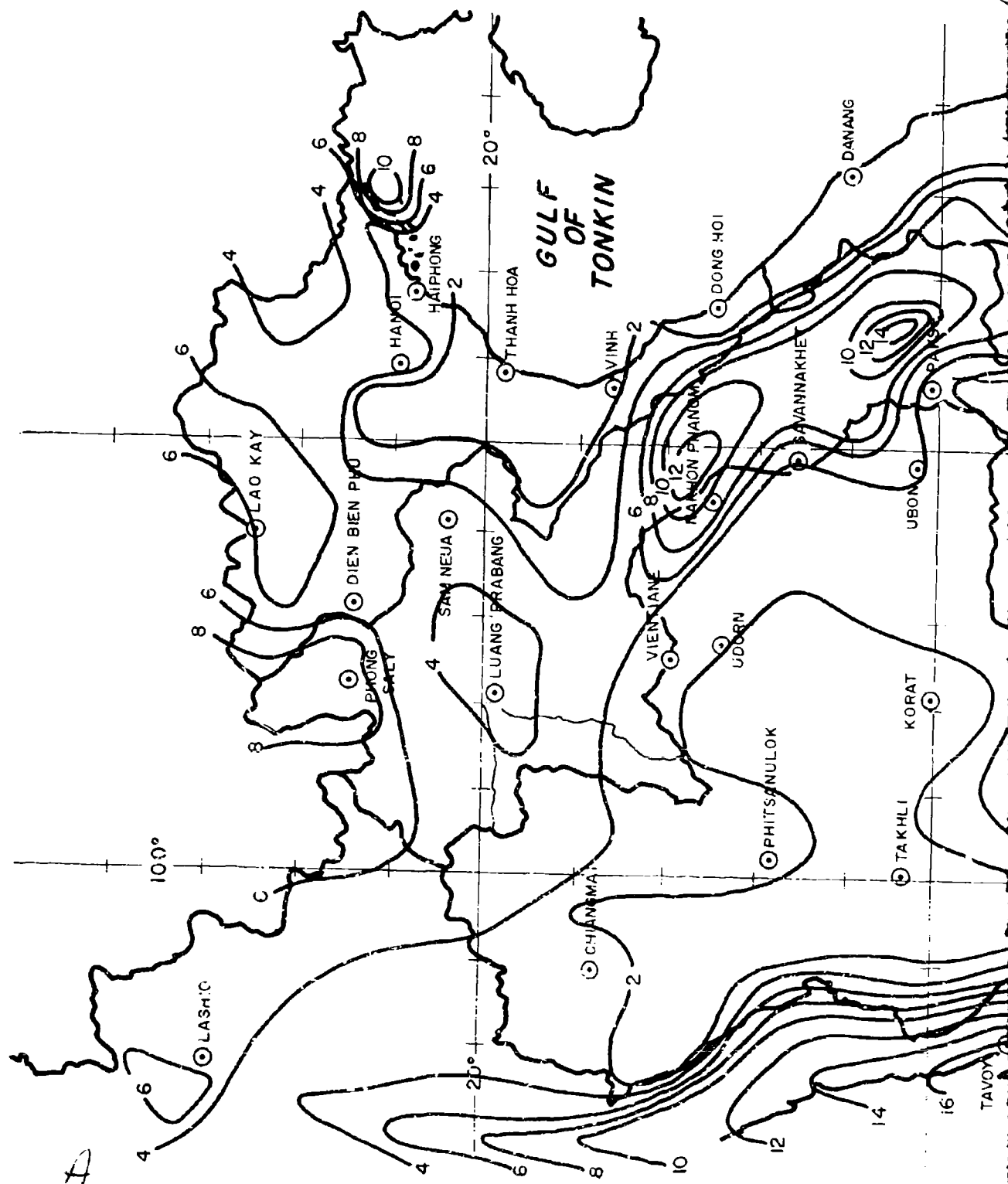


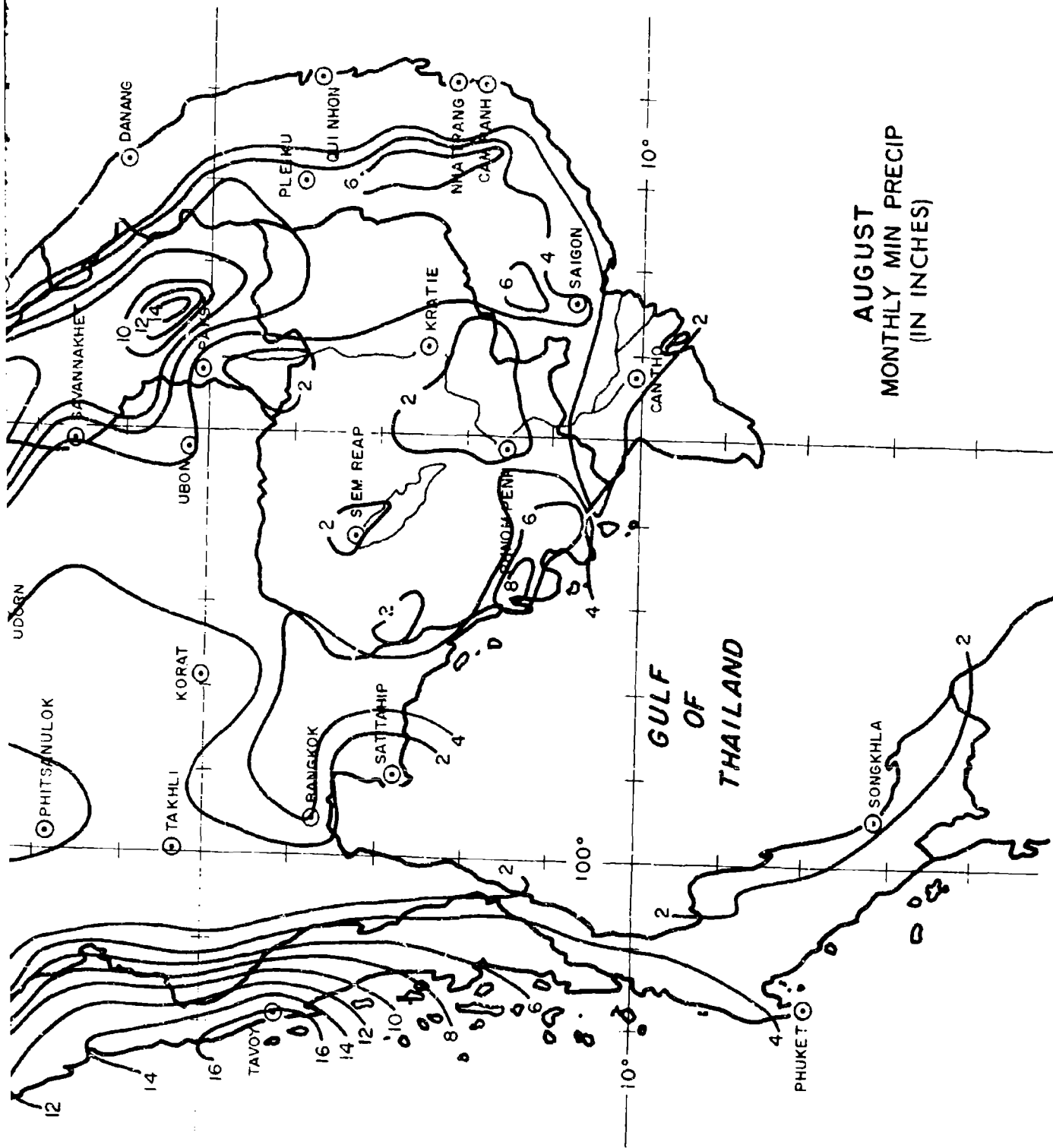
JUNE
MONTHLY MIN PRECIP
(IN INCHES)



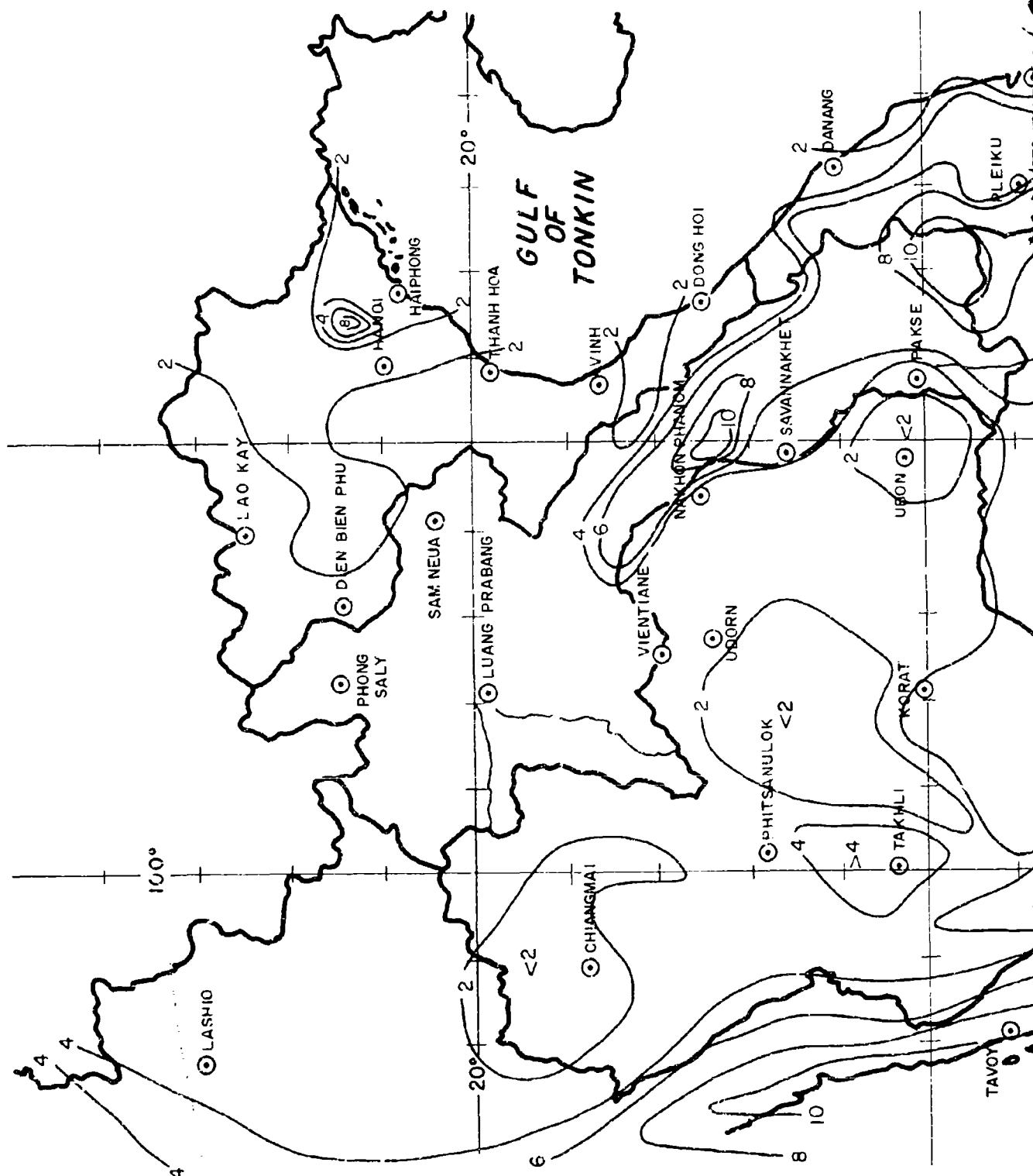


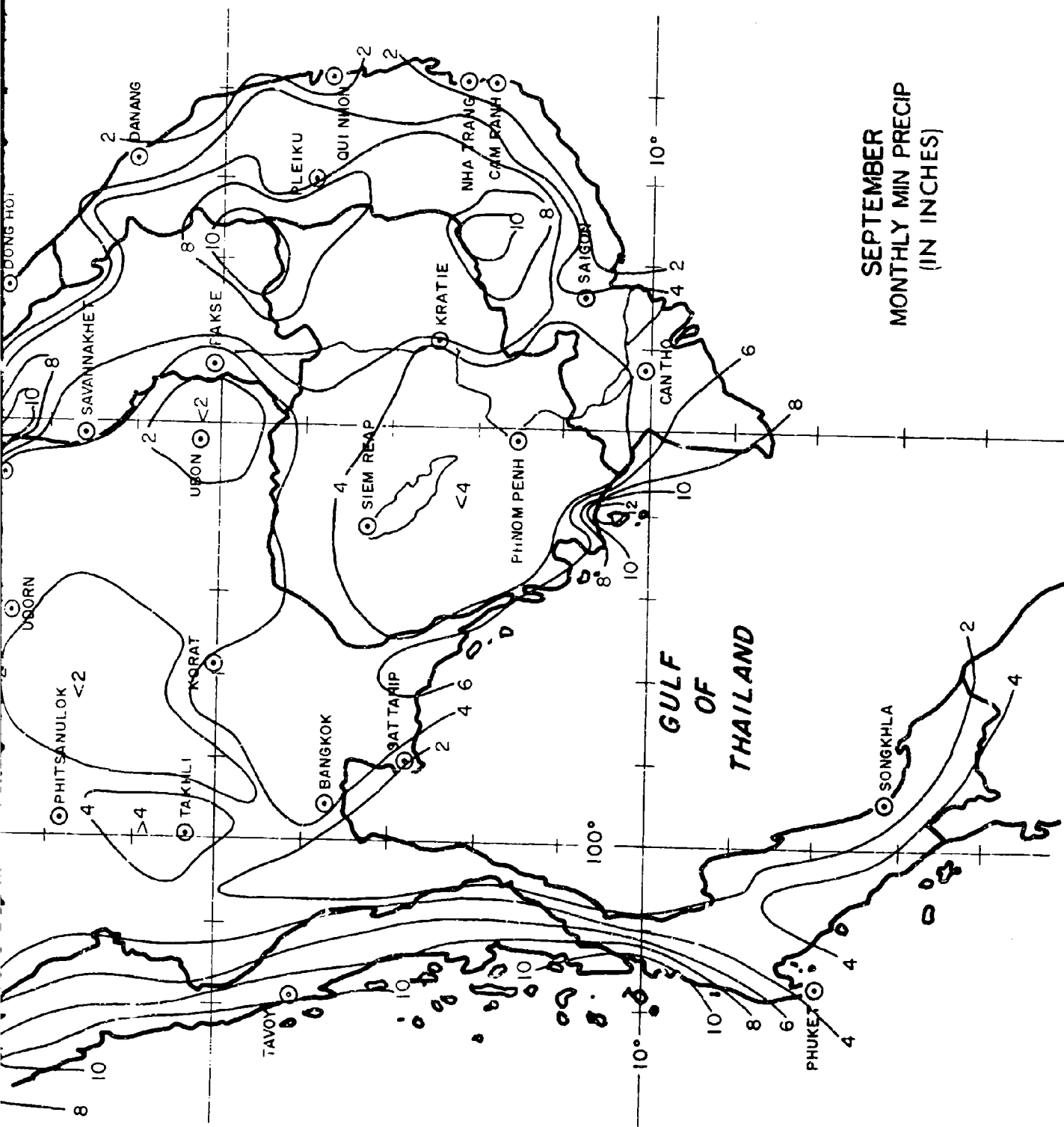
JULY
MONTHLY MIN PRECIP
(IN INCHES)



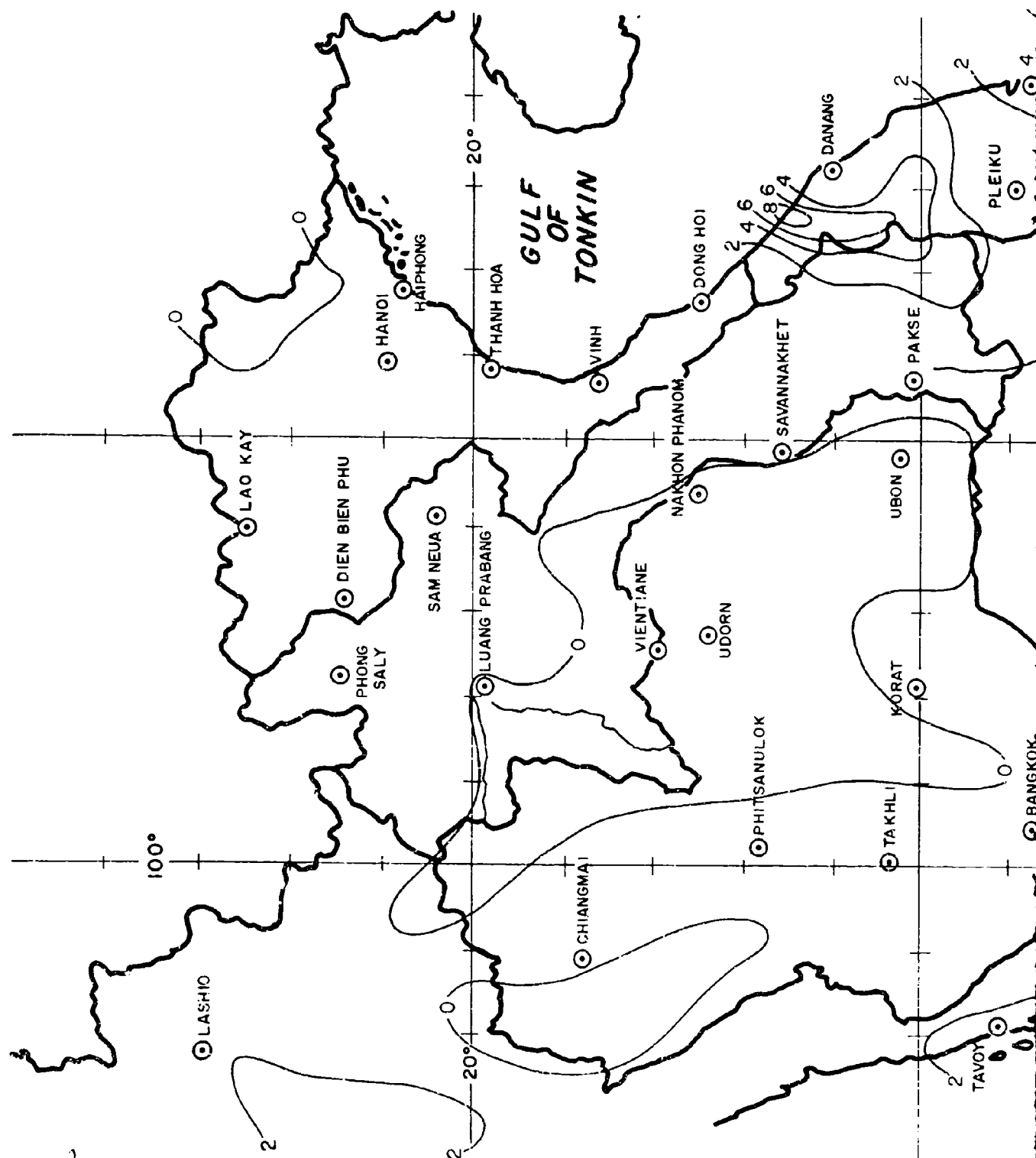


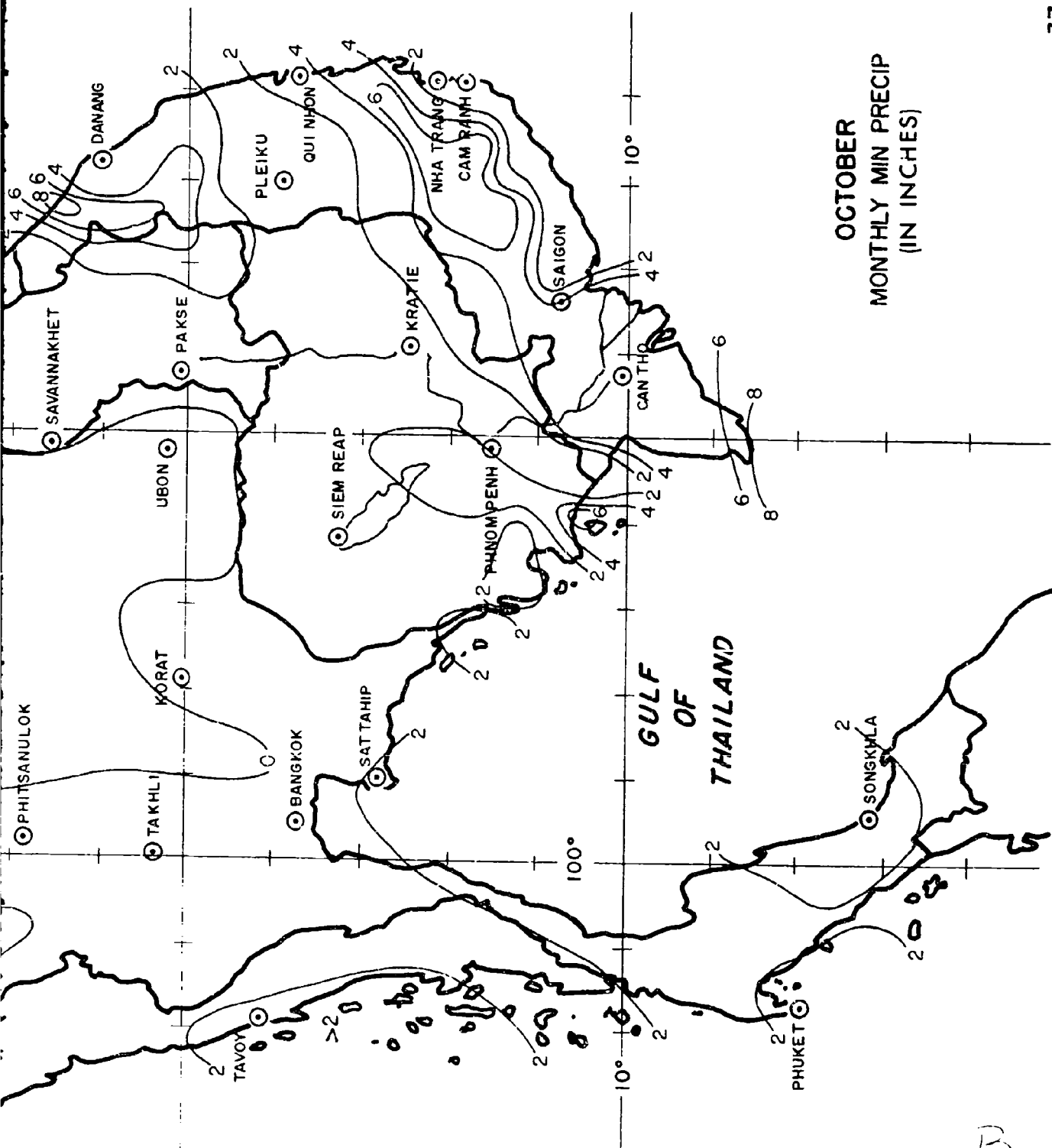
AUGUST
MONTHLY MIN PRECIP
(IN INCHES)



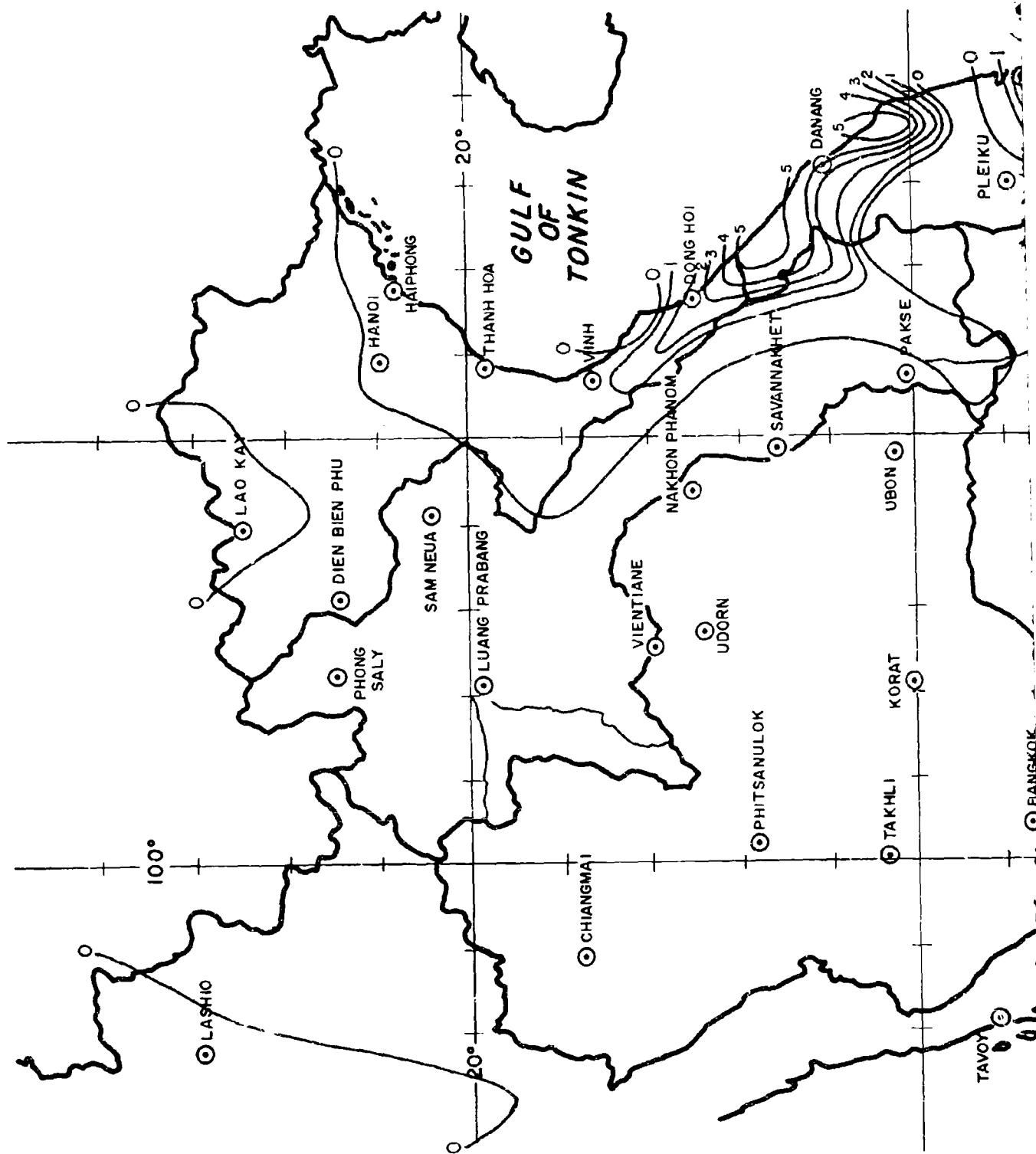


SEPTEMBER
MONTHLY MIN PRECIP
(IN INCHES)

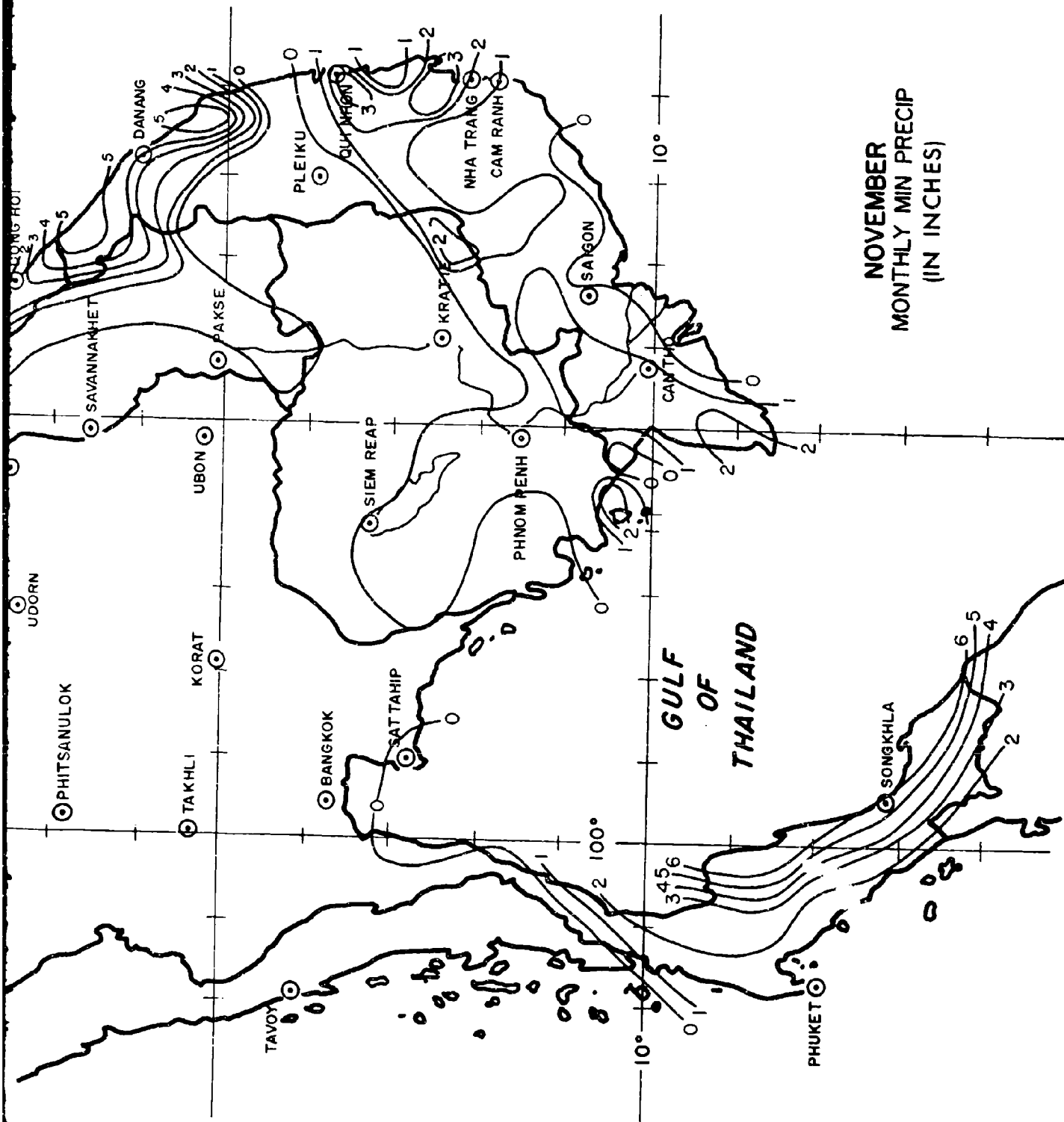




OCTOBER
MONTHLY MIN PRECIP
(IN INCHES)

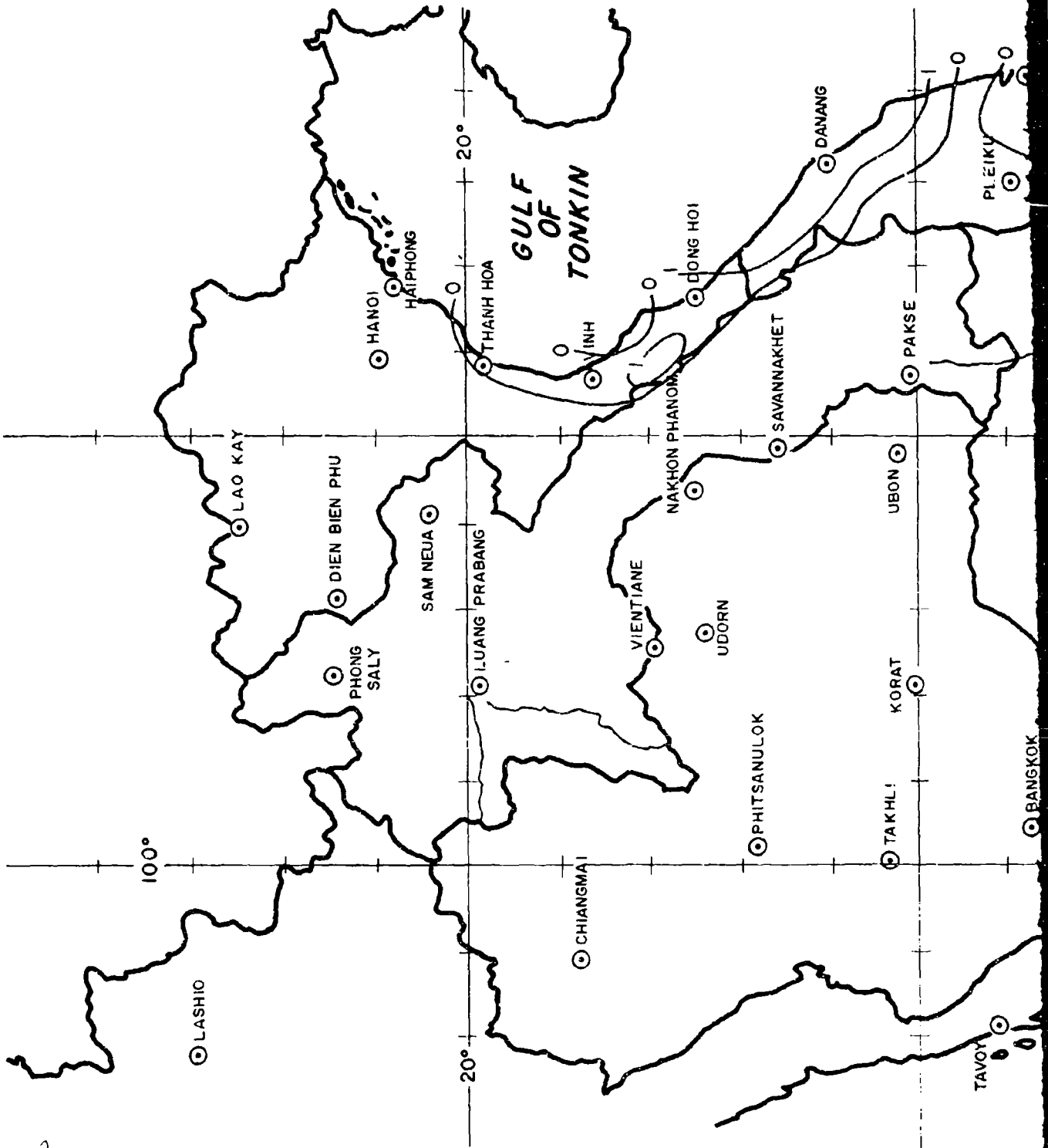


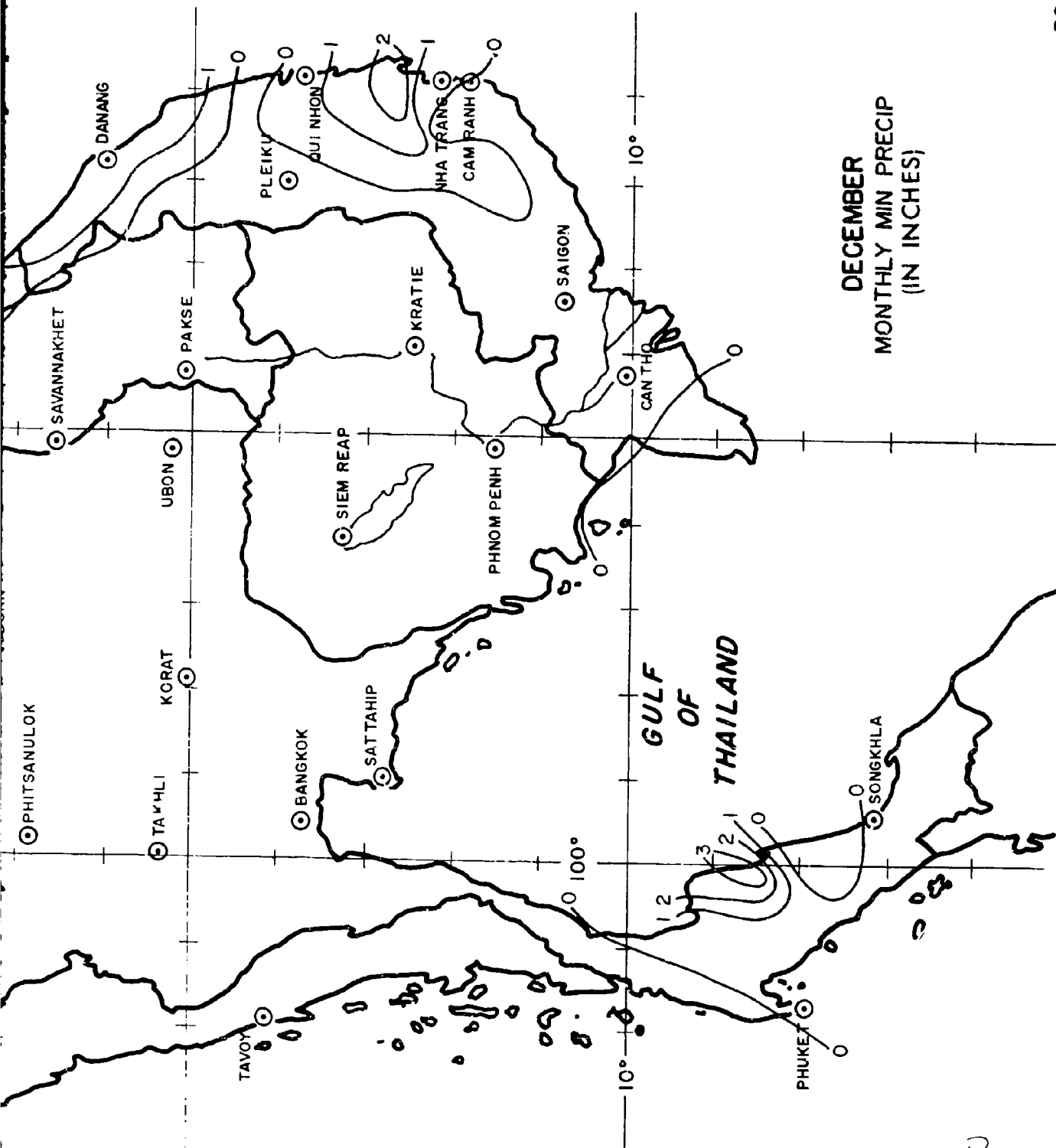
A



NOVEMBER
MONTHLY MIN PRECIP
(IN INCHES)

B



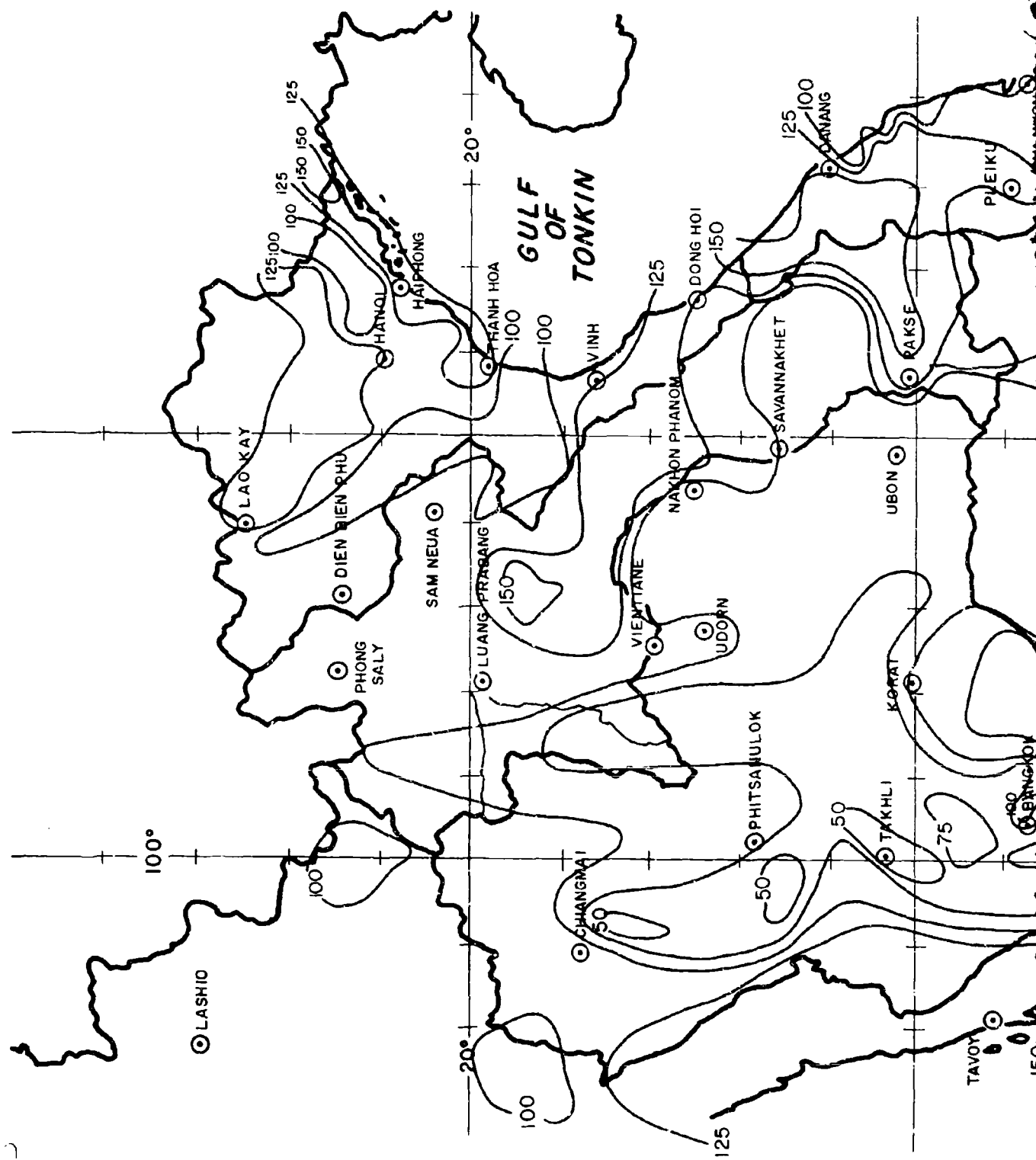


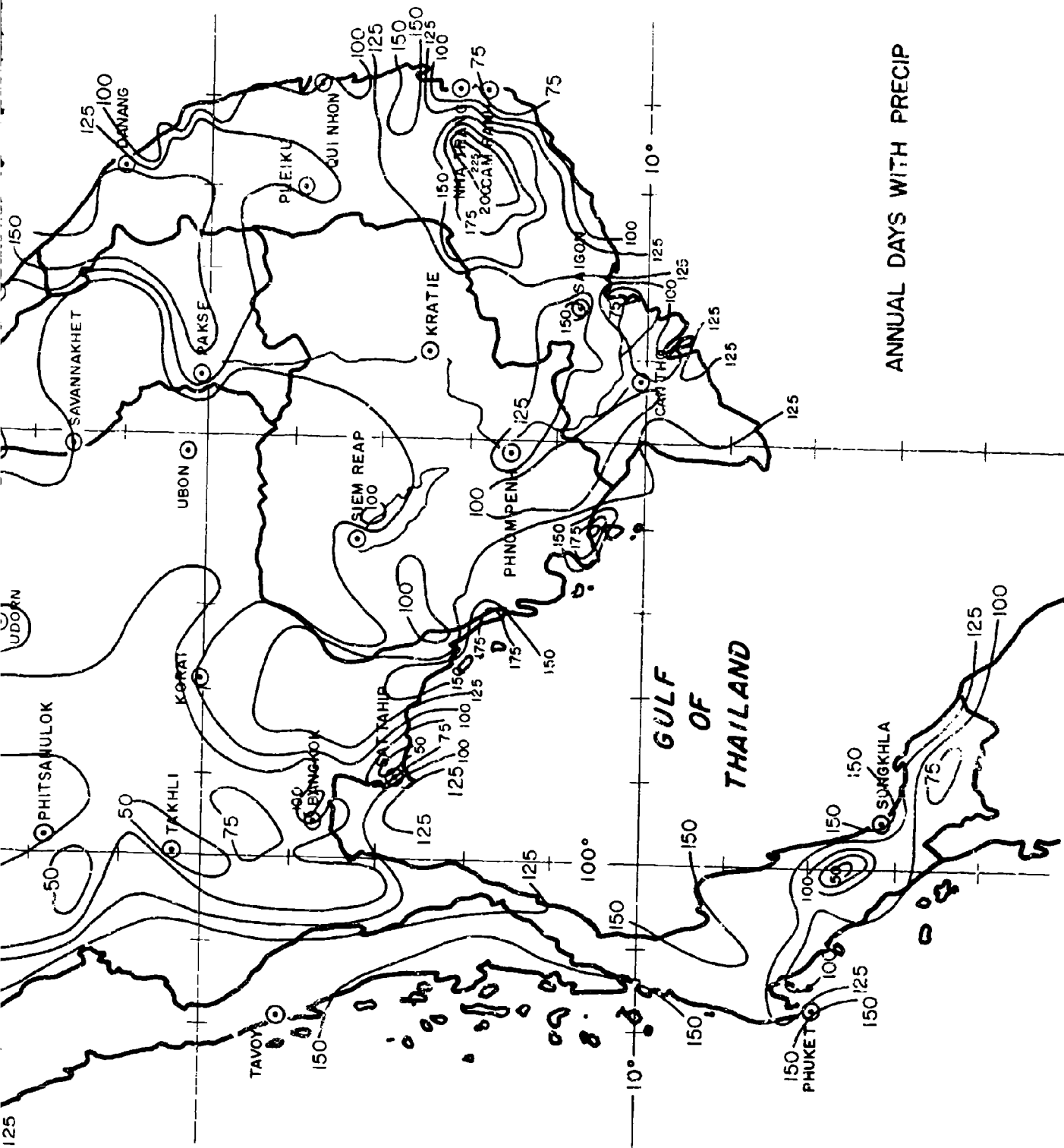
B

SECTION IV

**MEAN NUMBER OF DAYS
WITH PRECIPITATION**

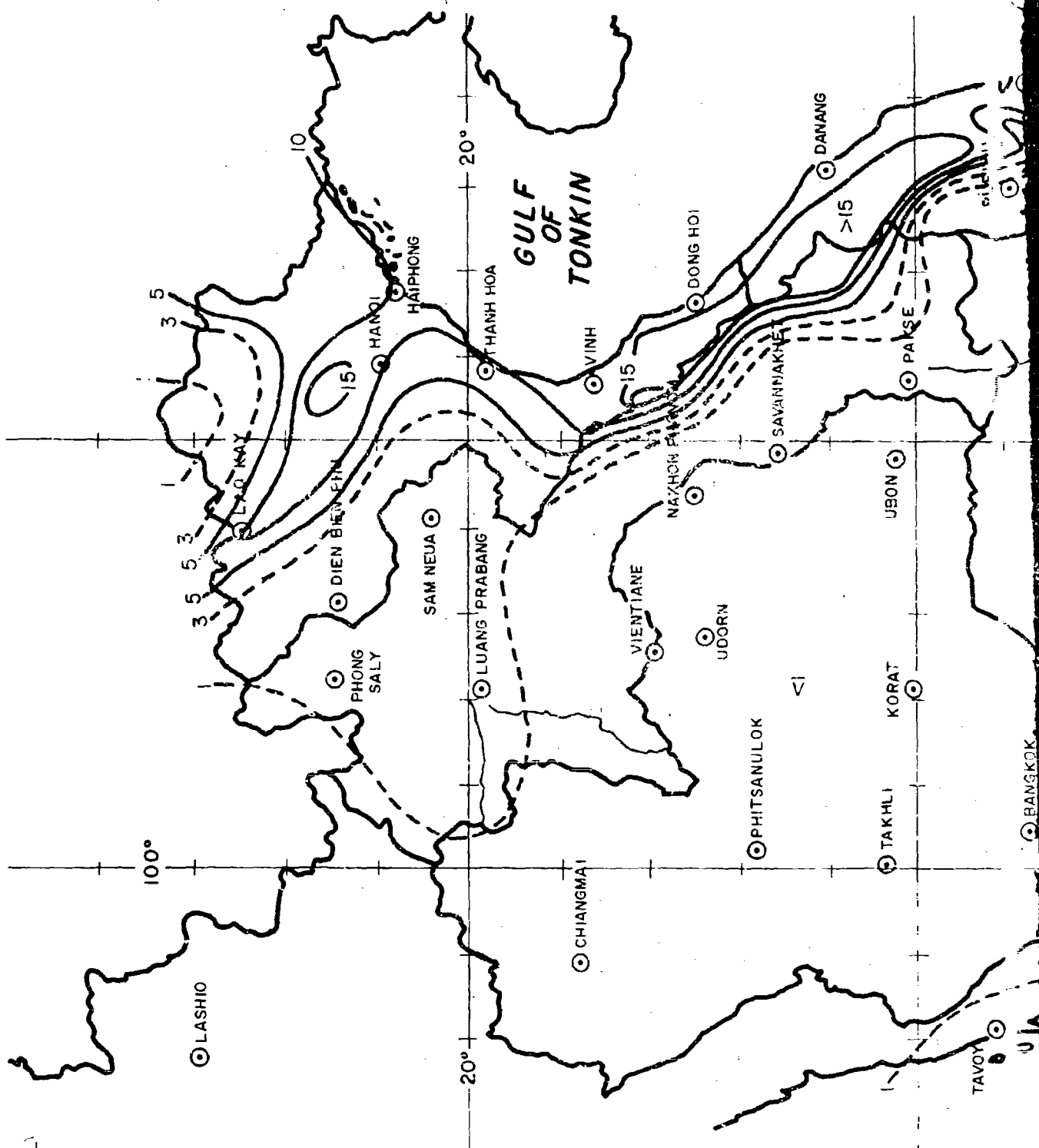
17

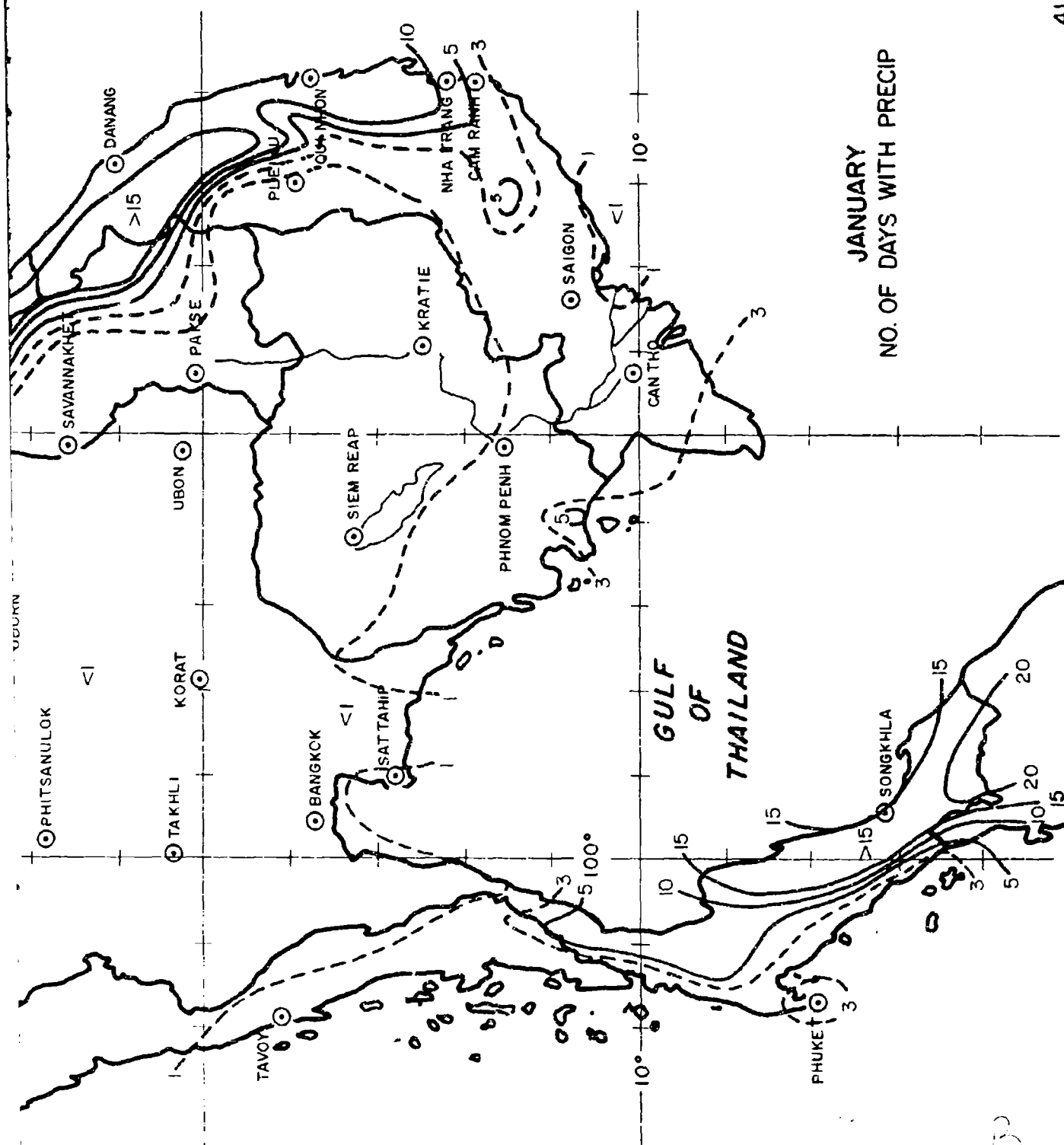




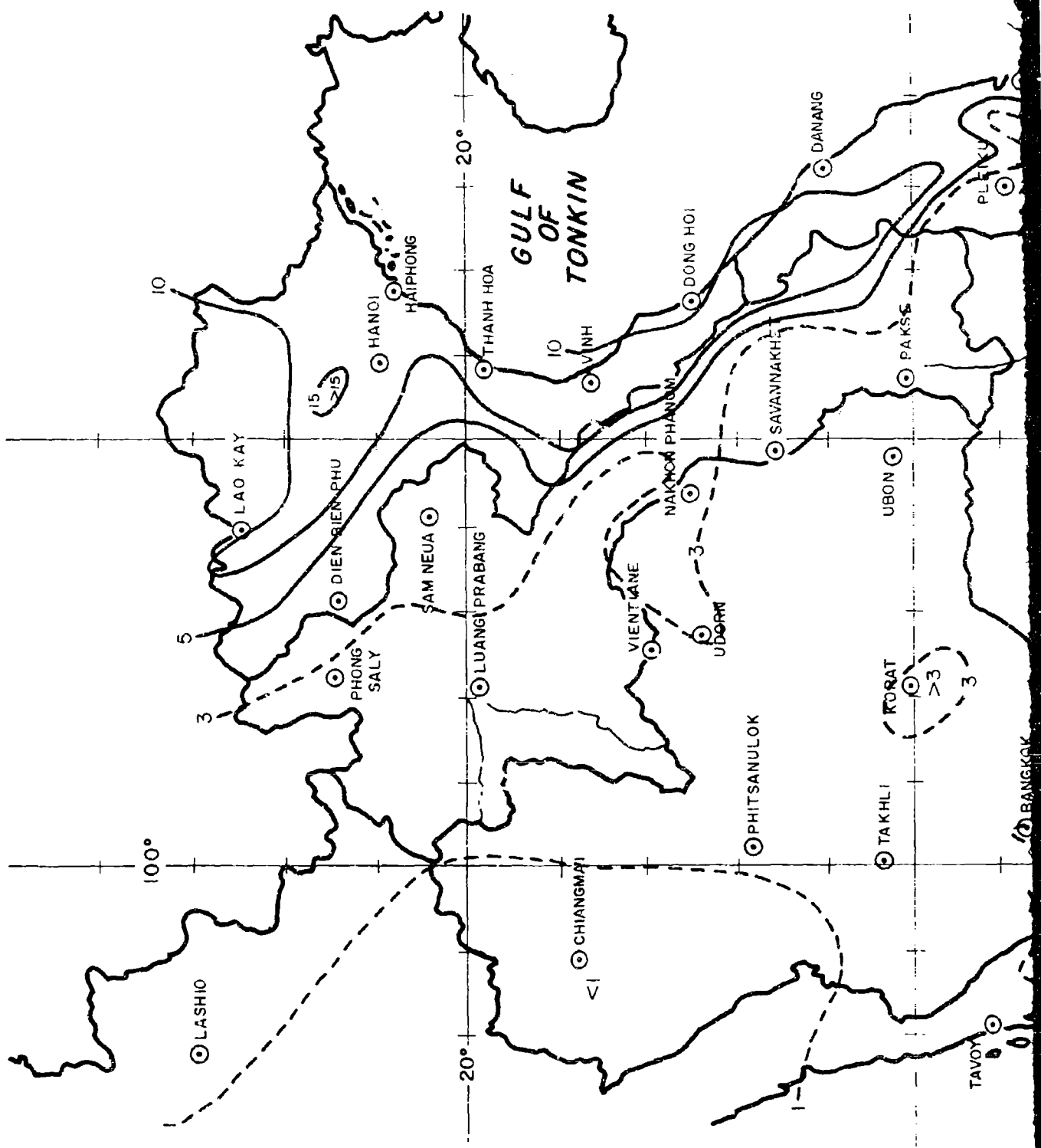
ANNUAL DAYS WITH PRECIP

B

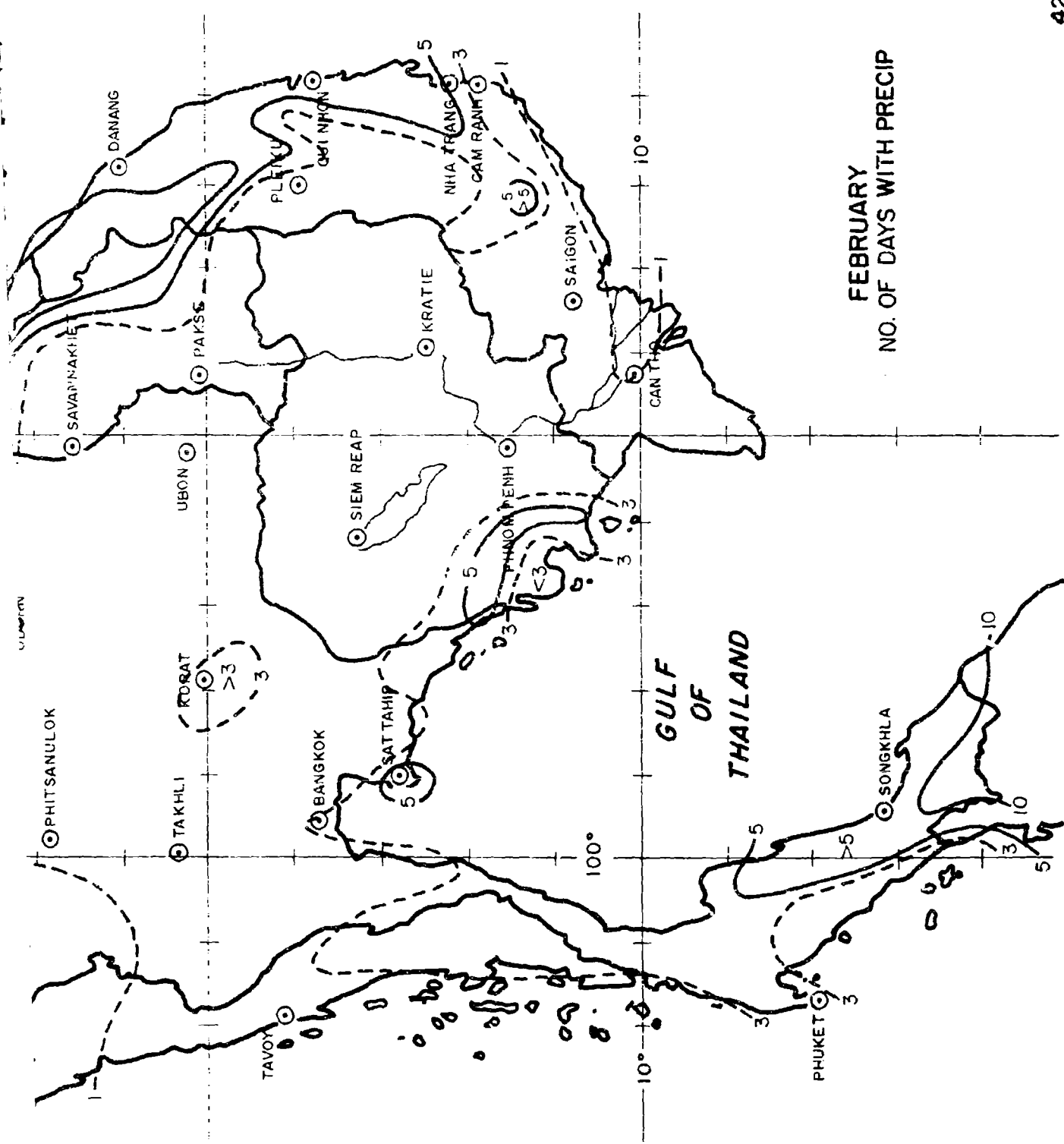




JANUARY
NO. OF DAYS WITH PRECIP

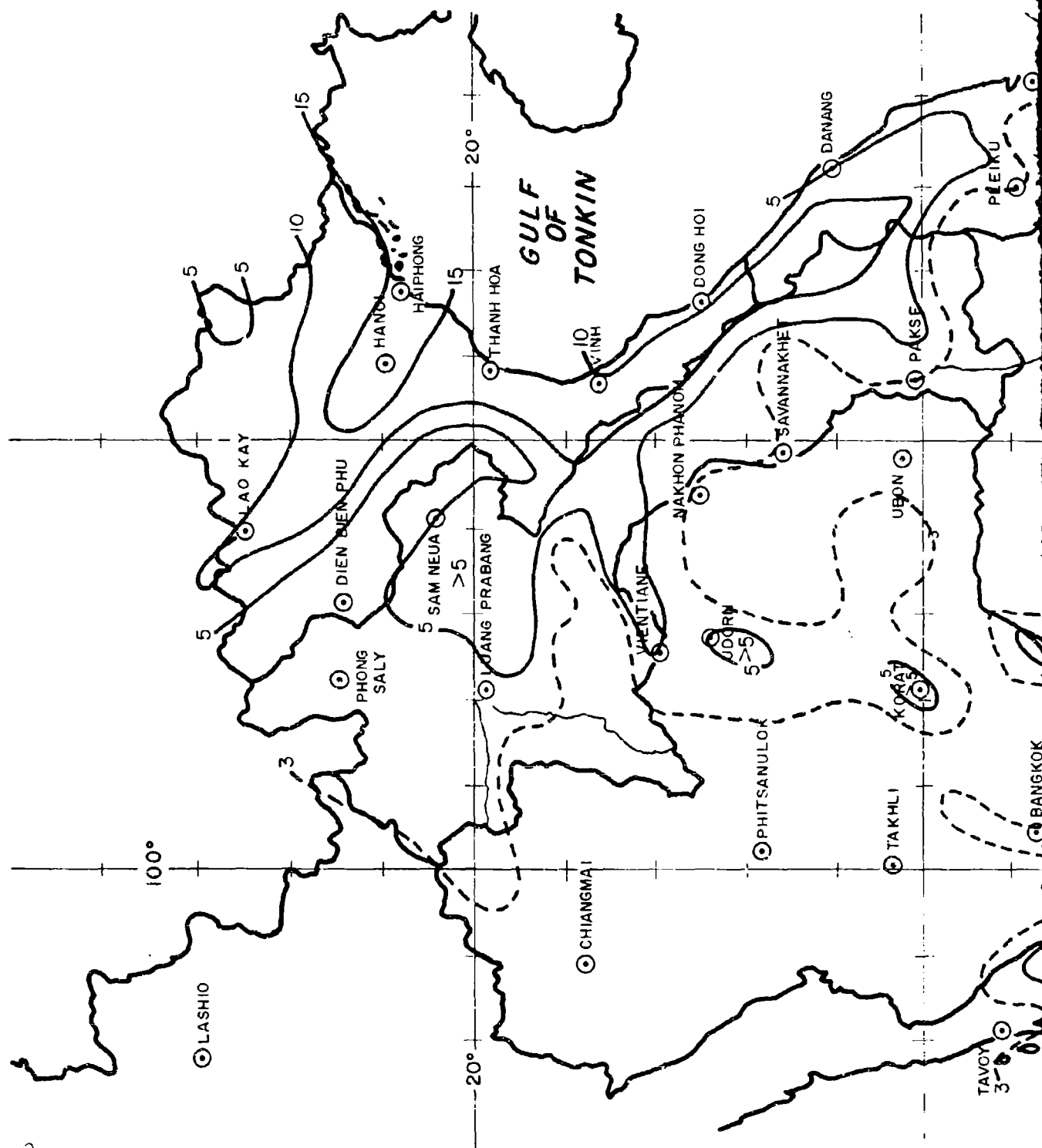


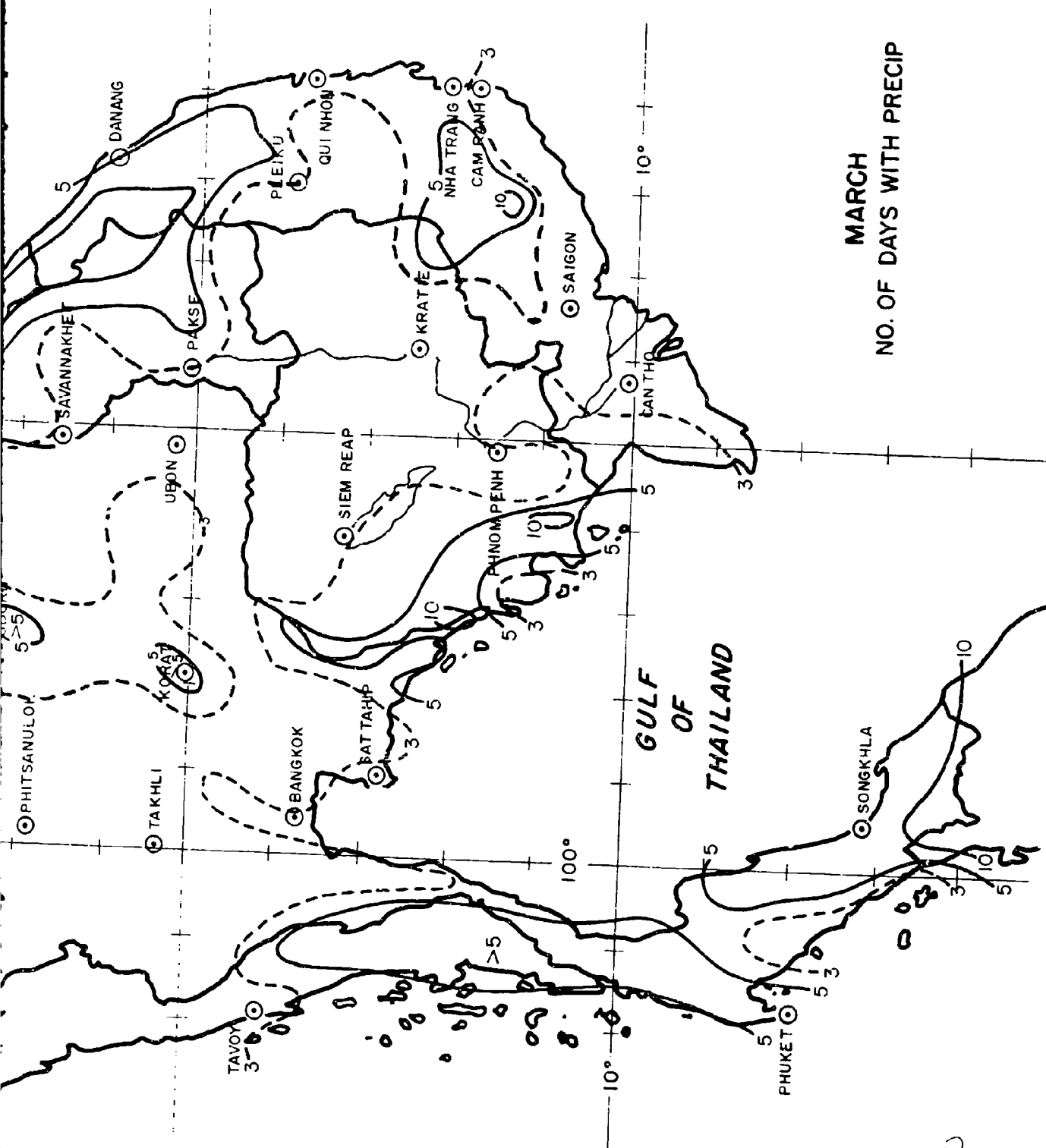
A



FEBRUARY
NO. OF DAYS WITH PRECIP

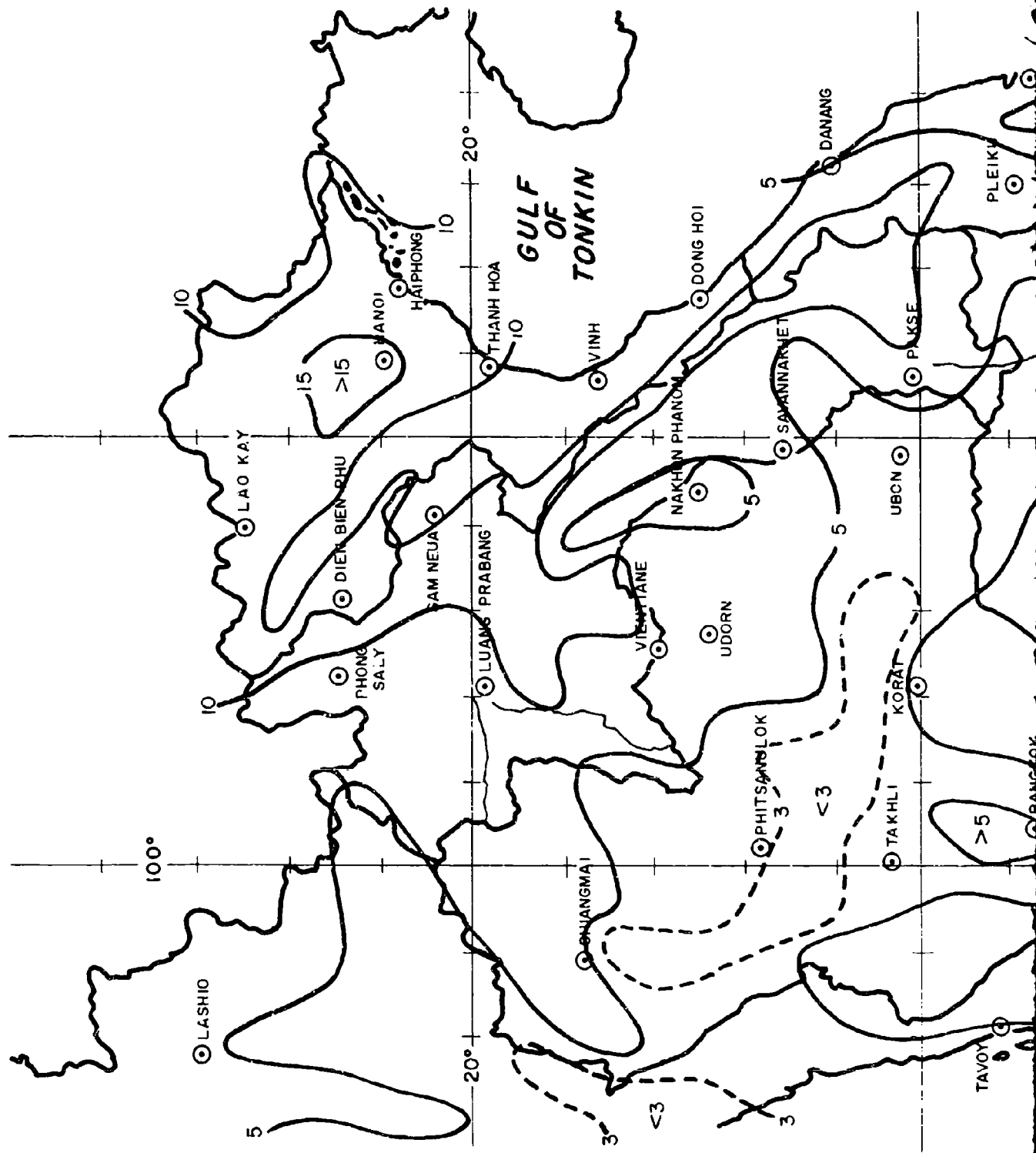
B

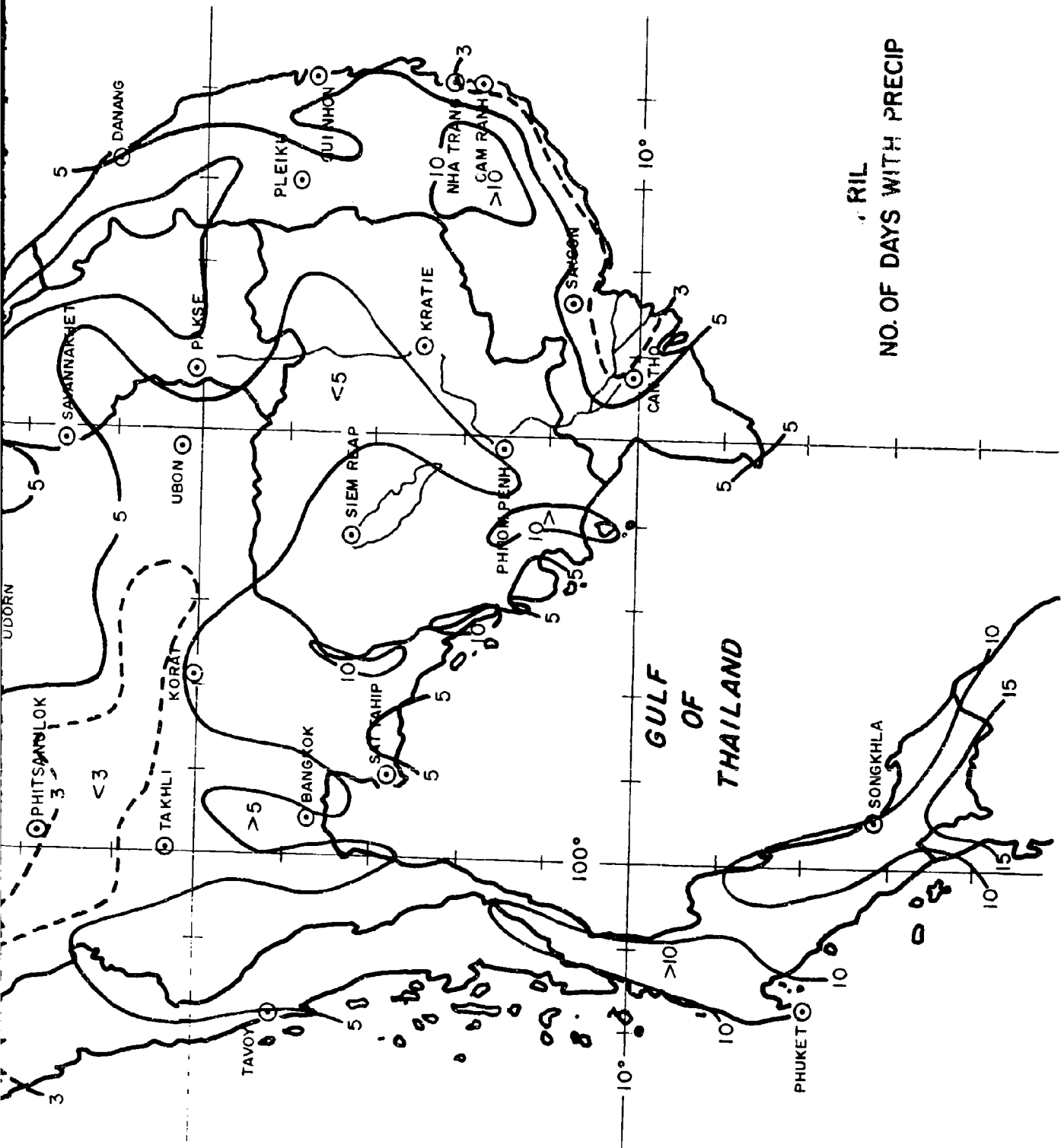




MARCH
NO. OF DAYS WITH PRECIP

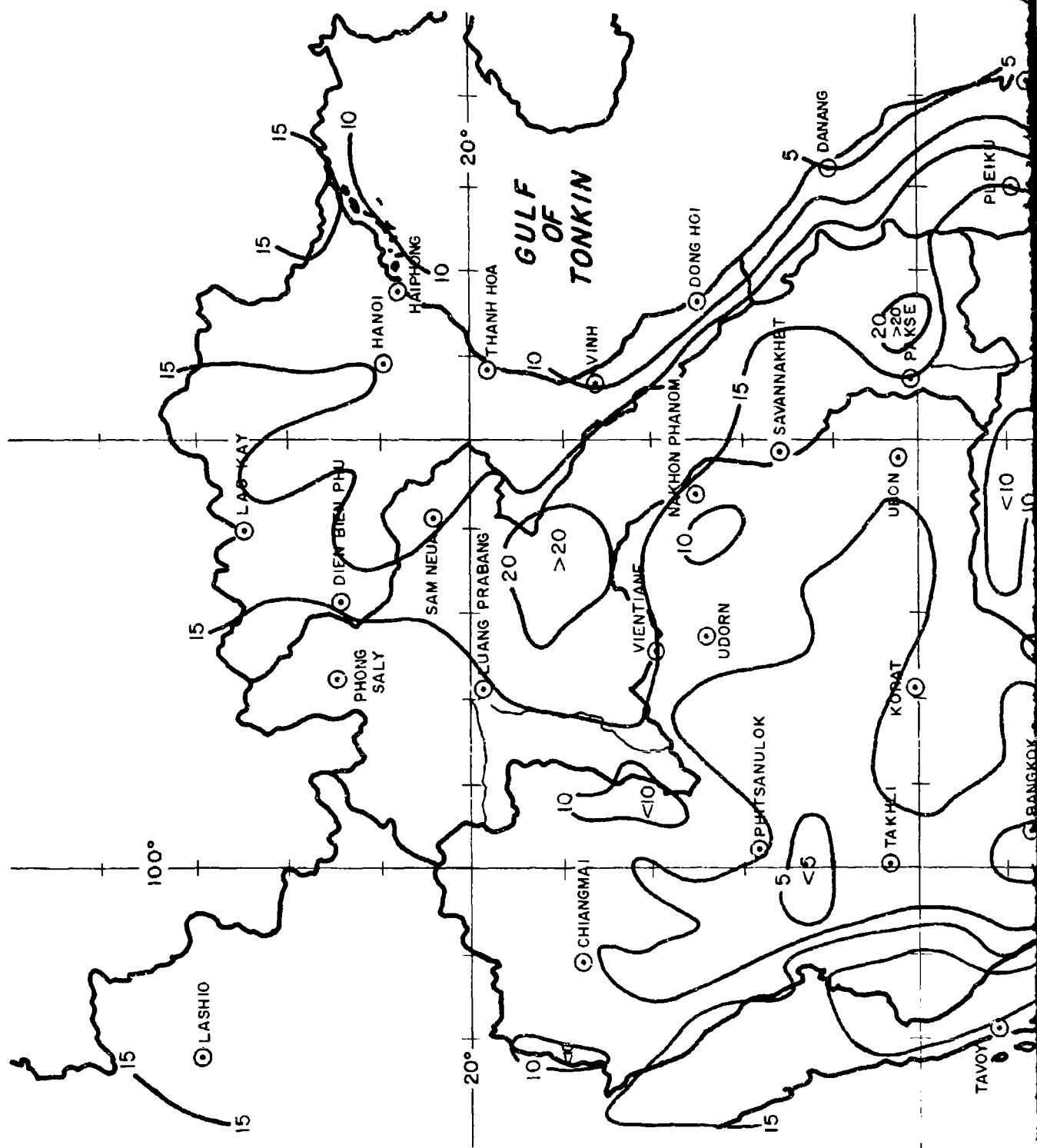
B





RIL
NO. OF DAYS WITH PRECIP

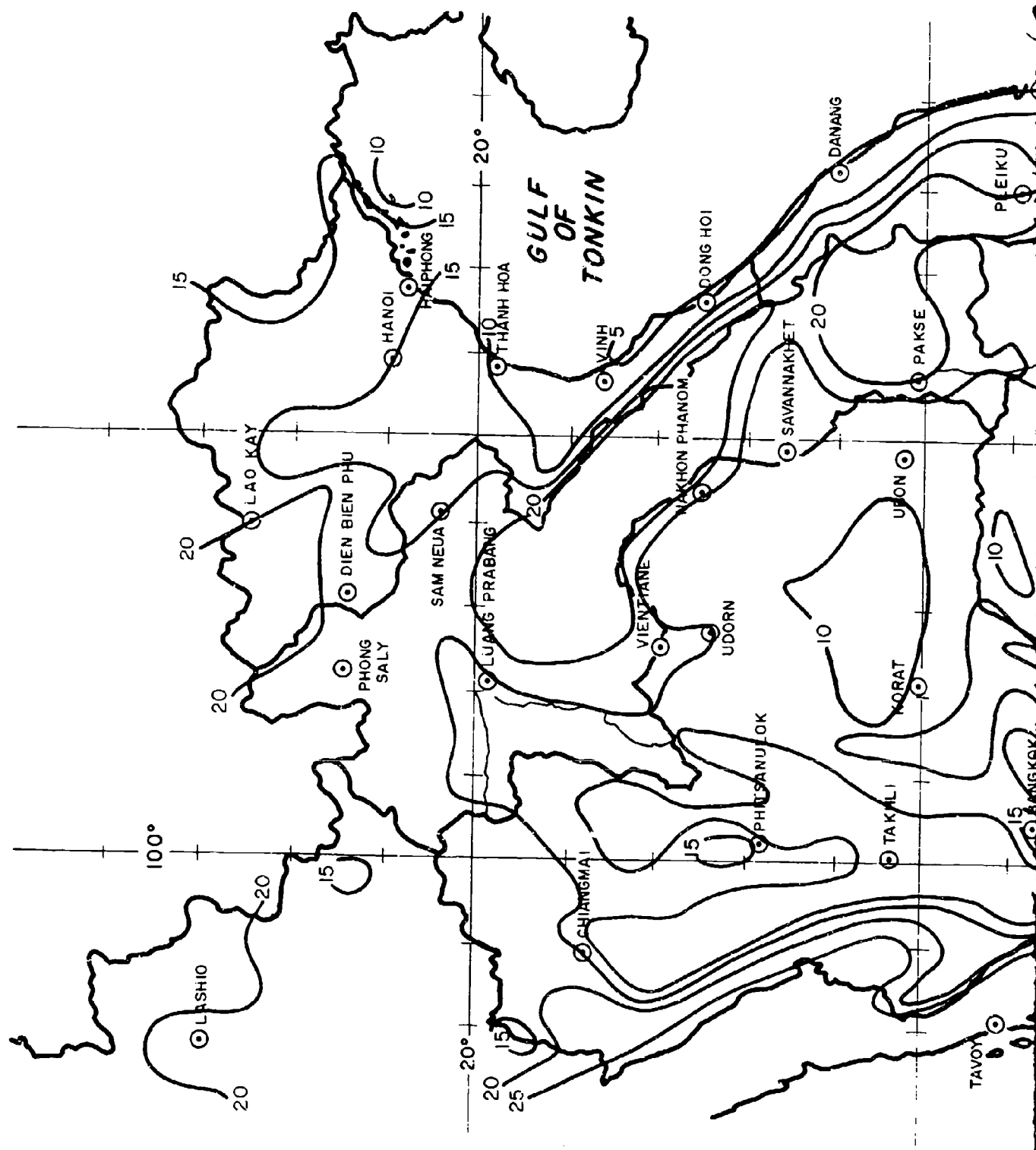
B



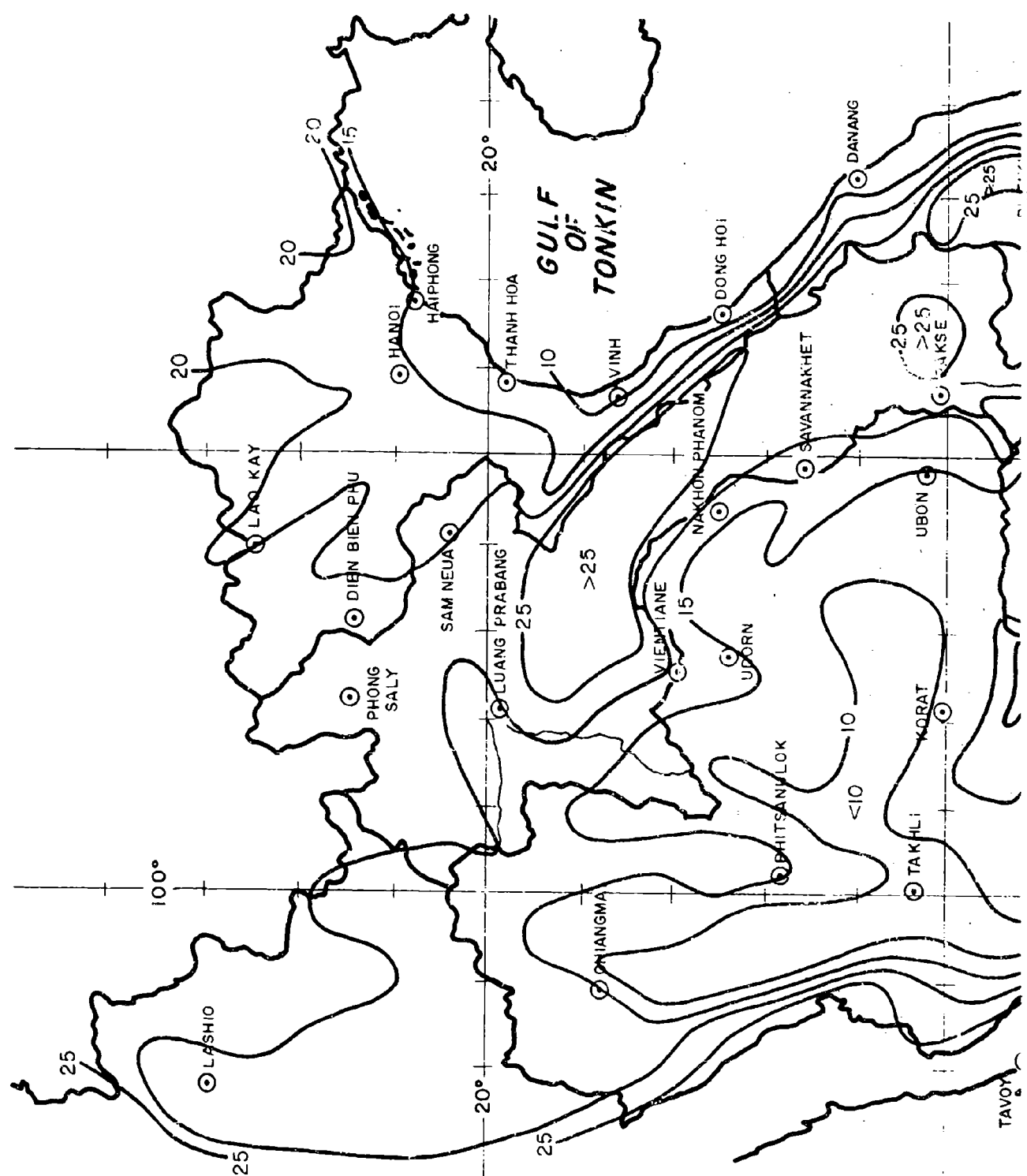


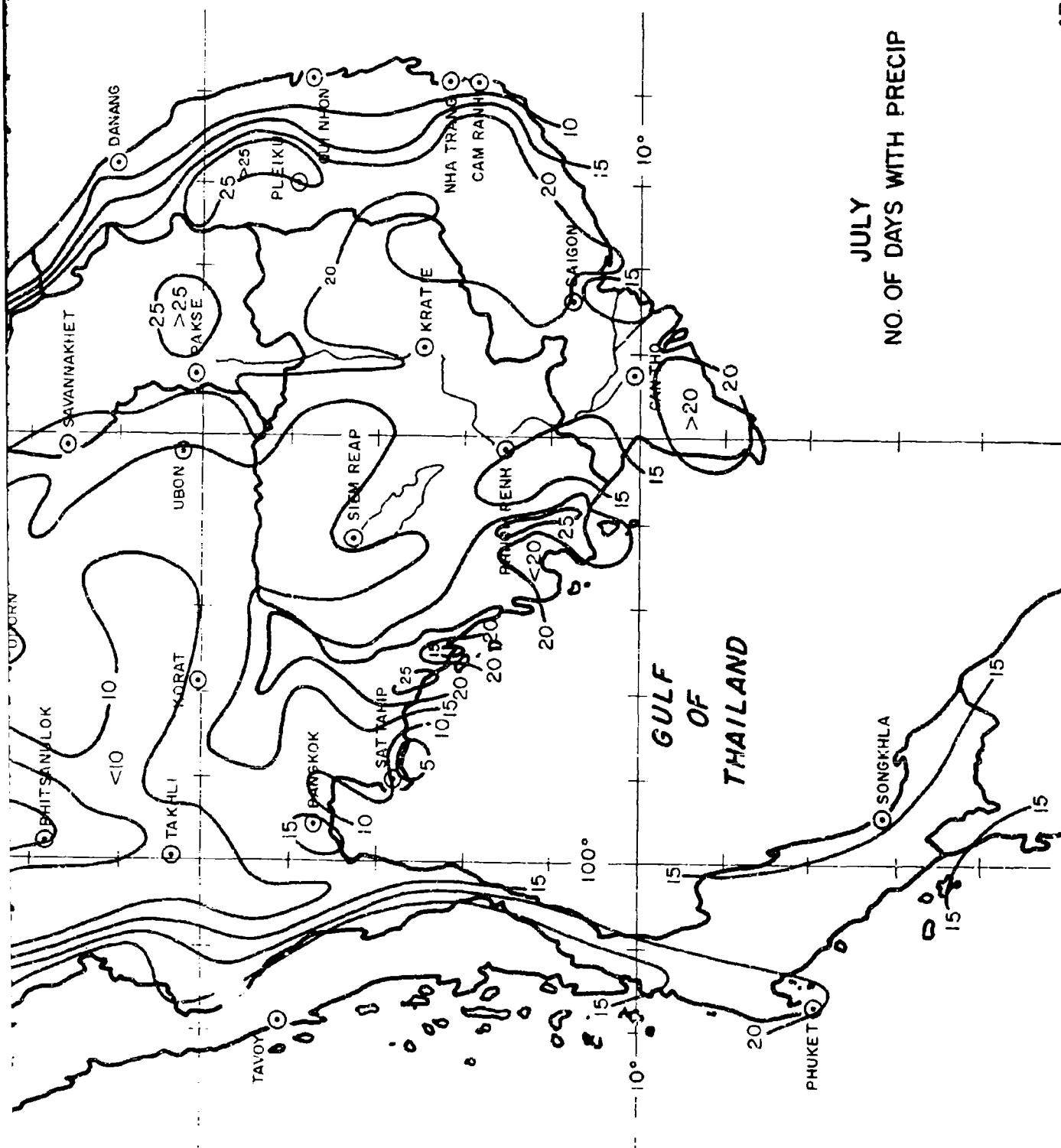
NO. OF DAYS WITH PRECIP

NO. OF DAYS WITH PRECIP



4

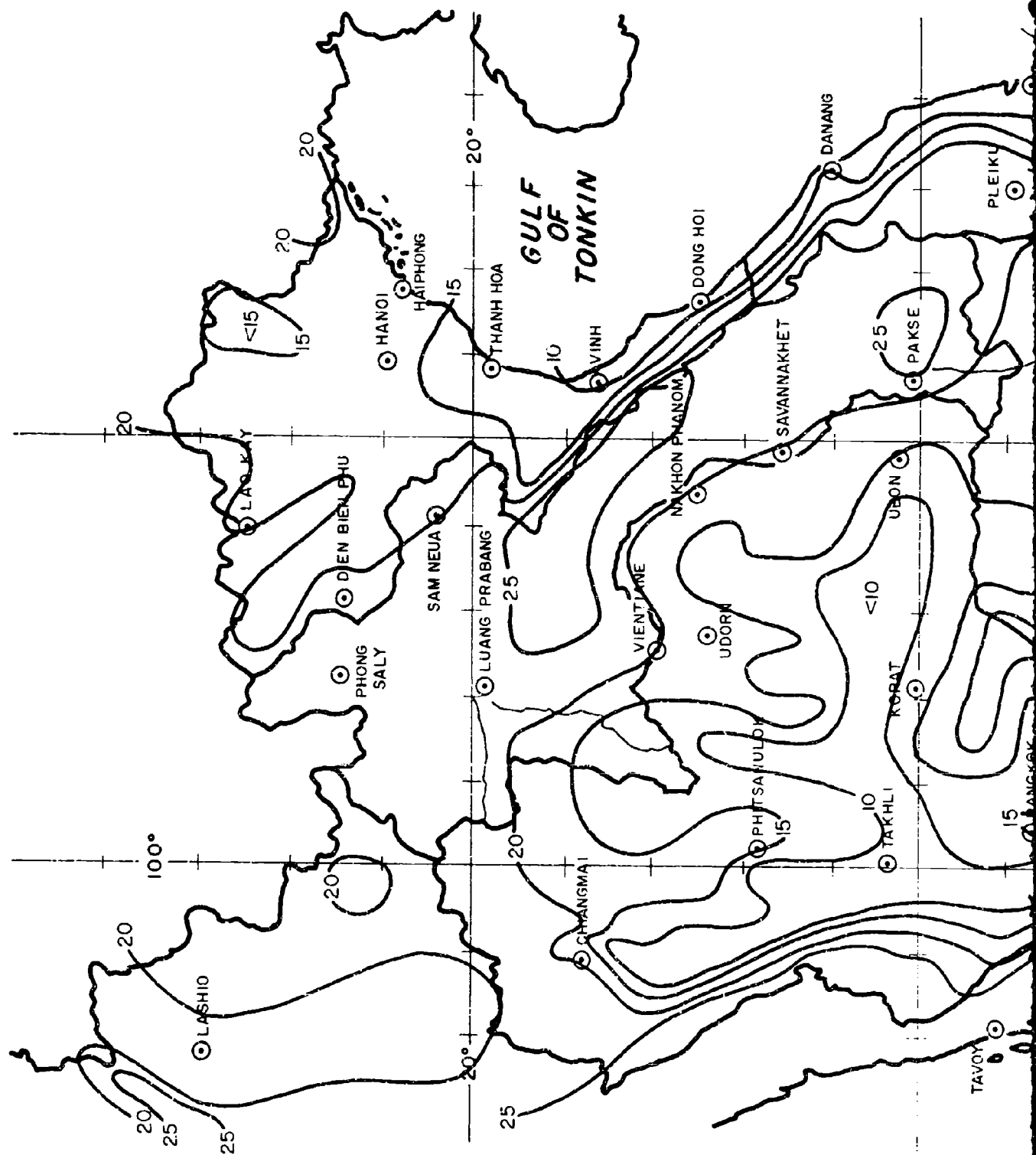


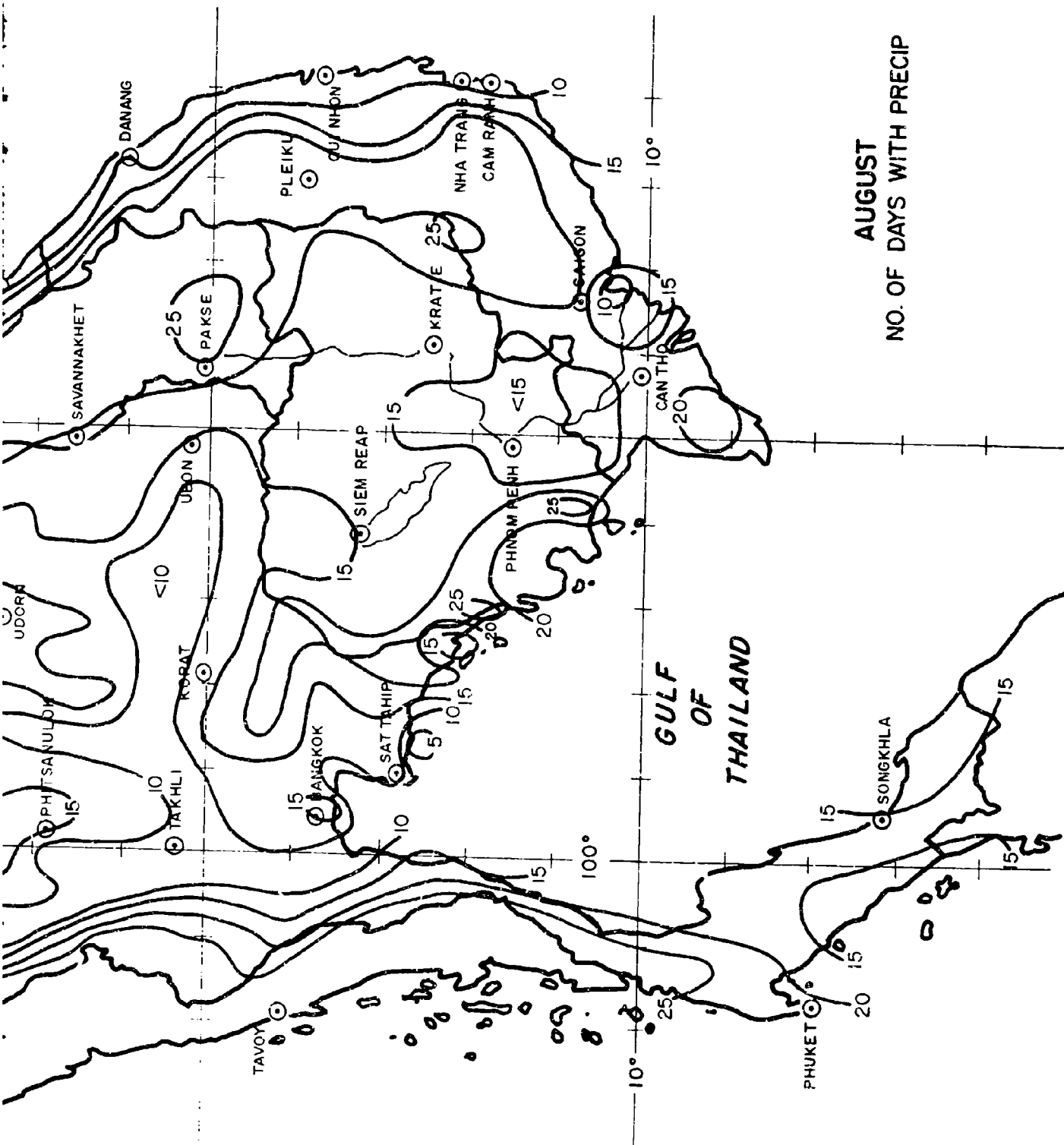


JULY
NO. OF DAYS WITH PRECIP

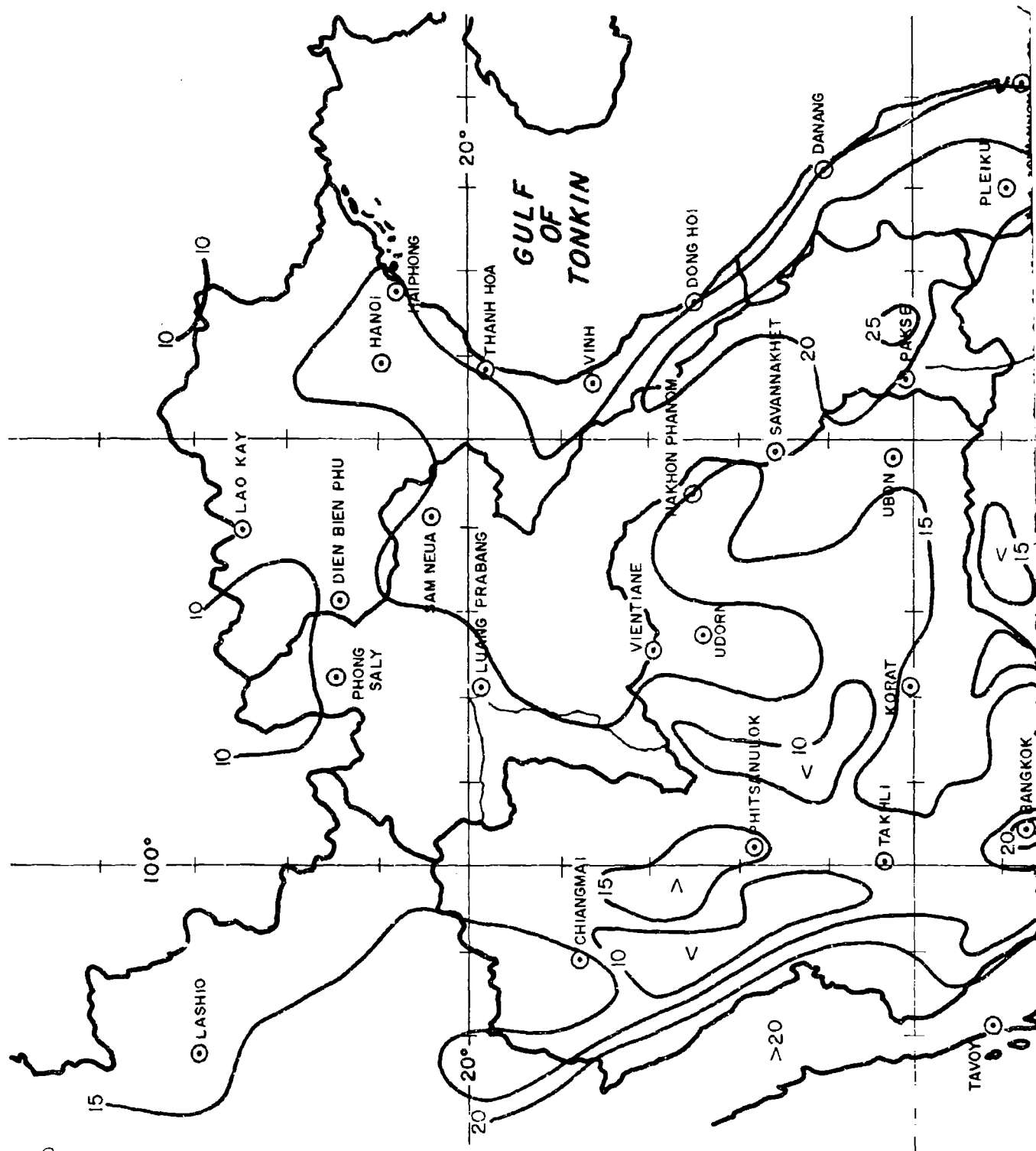
B

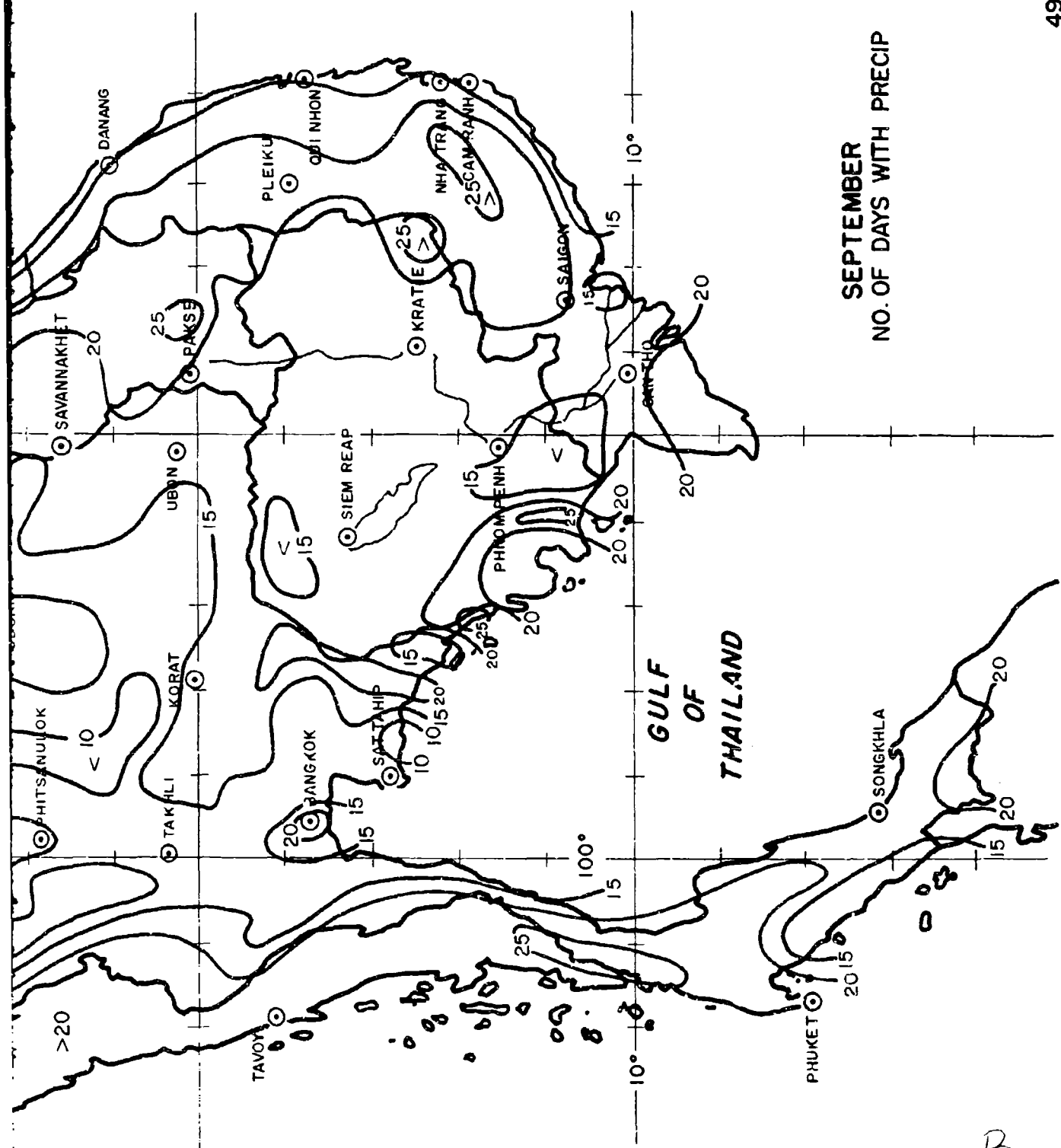
A





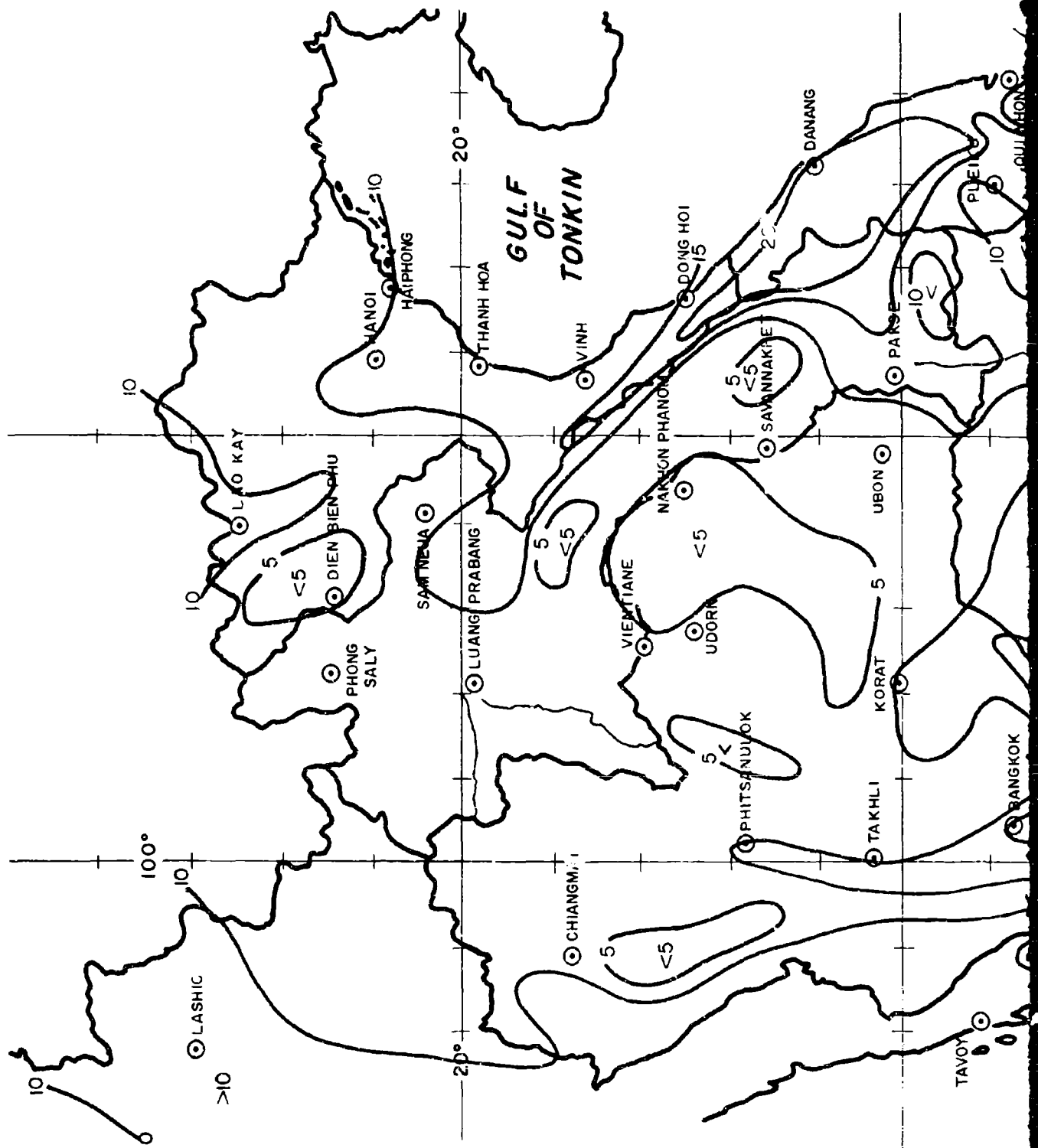
AUGUST
NO. OF DAYS WITH PRECIP

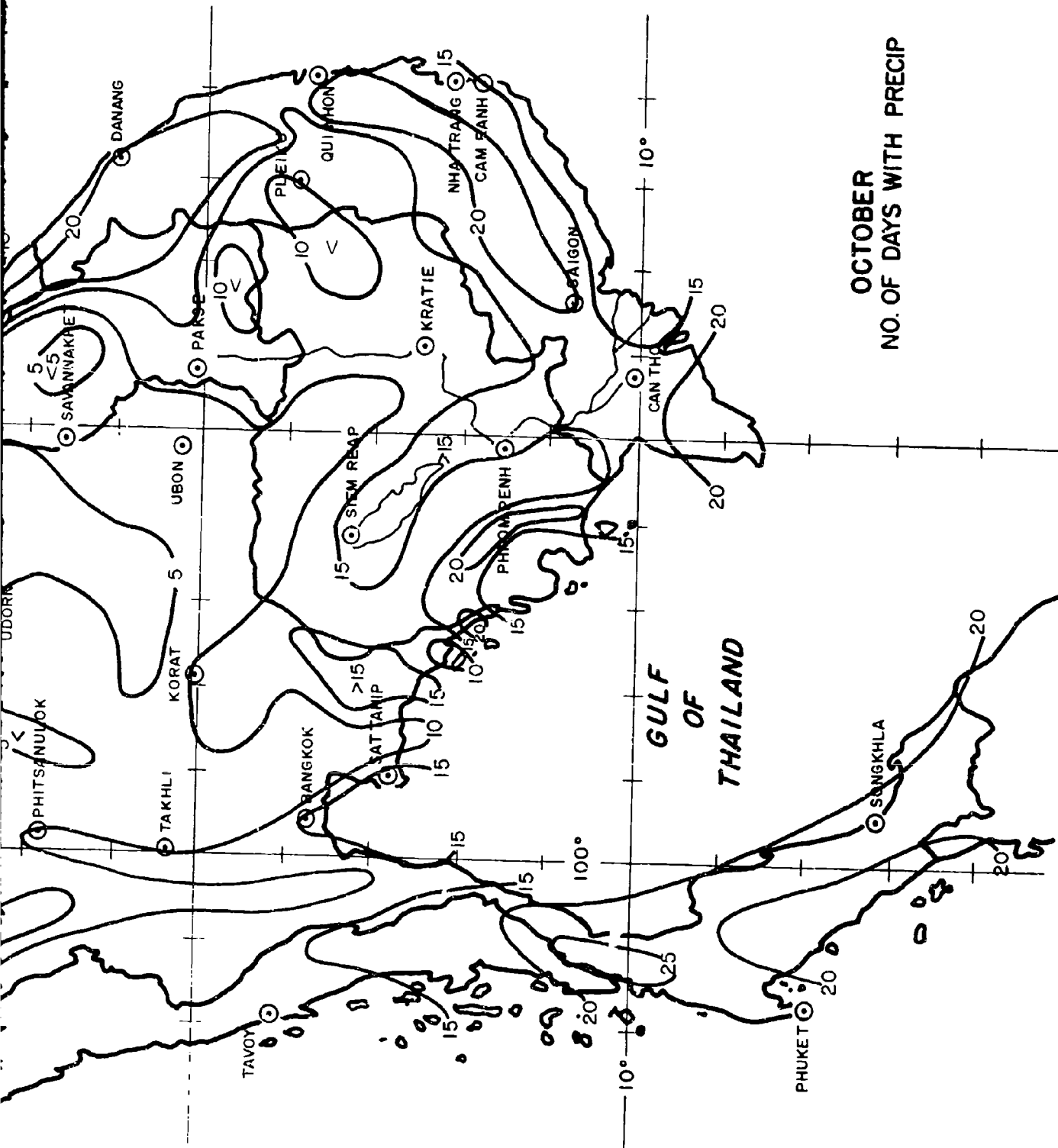




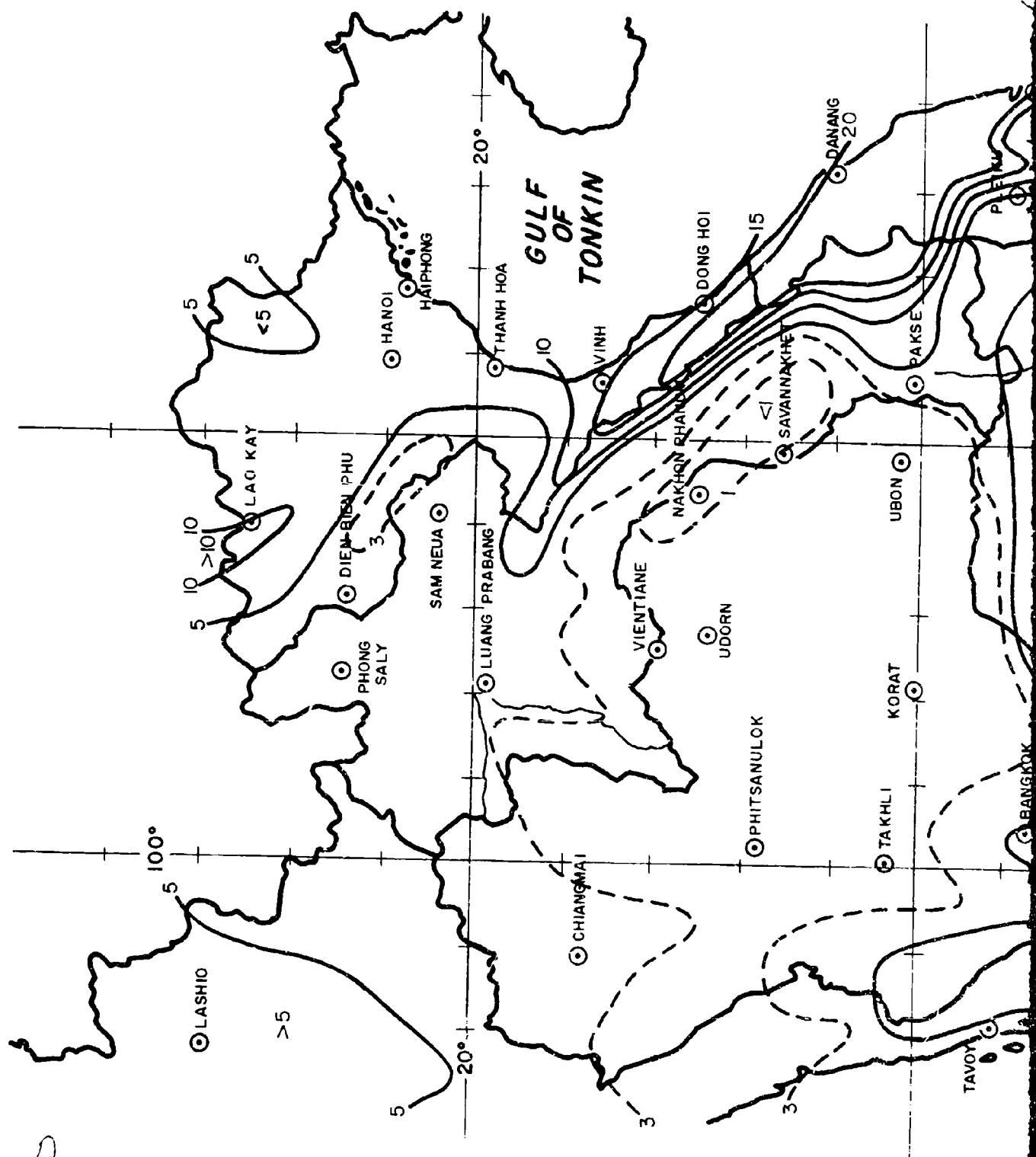
SEPTEMBER
NO. OF DAYS WITH PRECIP

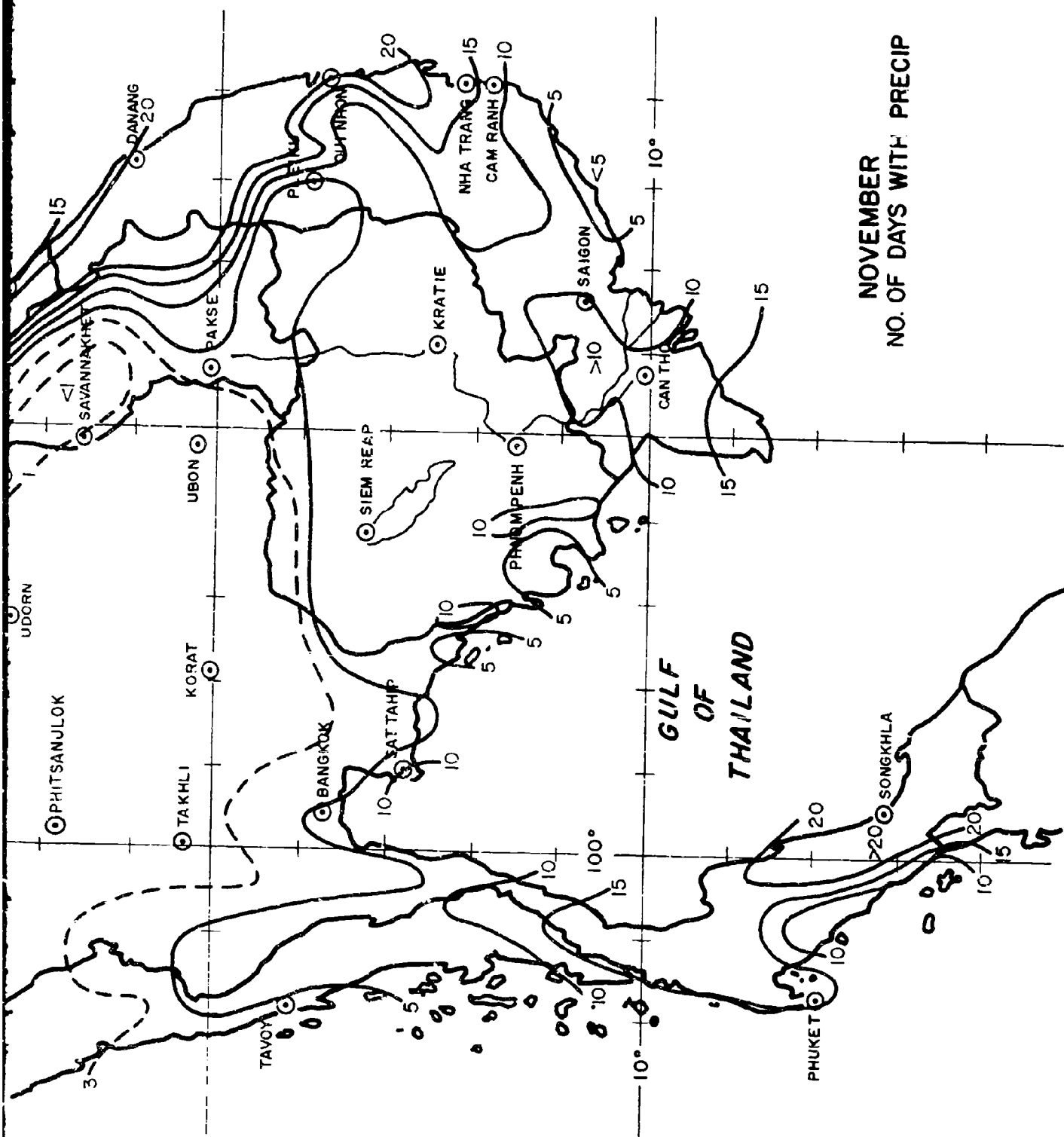
B



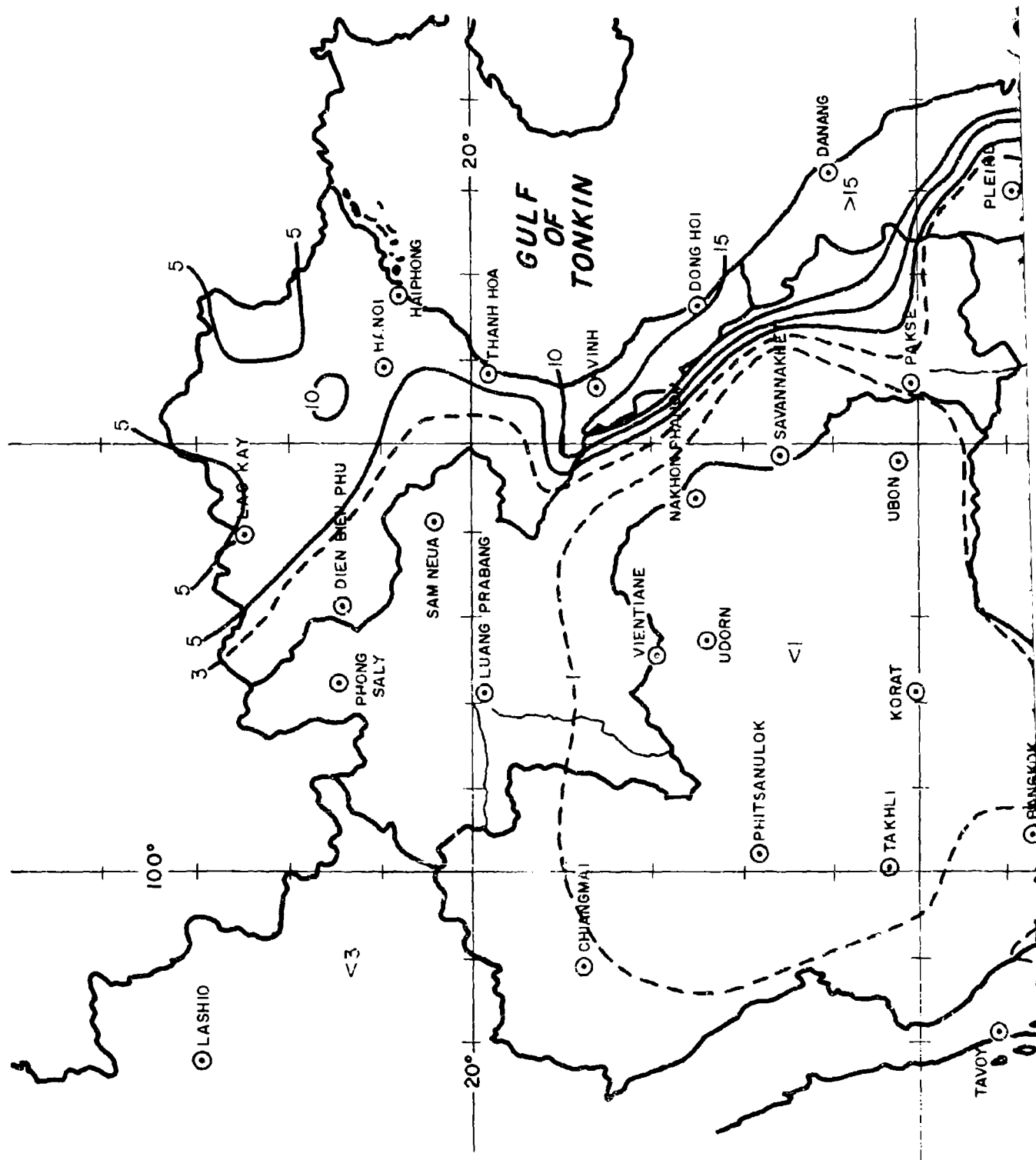


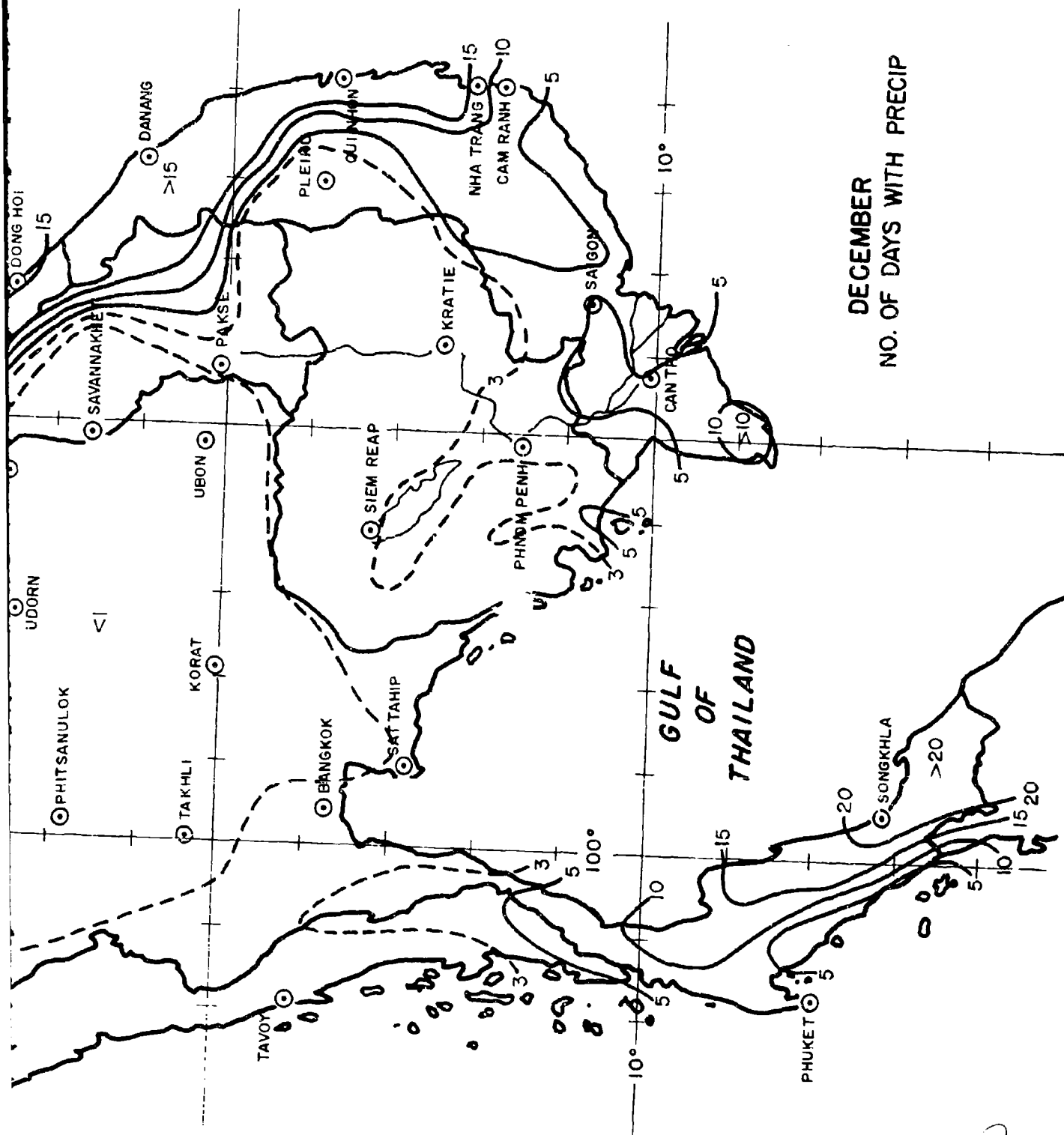
OCTOBER
NO. OF DAYS WITH PRECIP





NOVEMBER
NO. OF DAYS WITH PRECIP



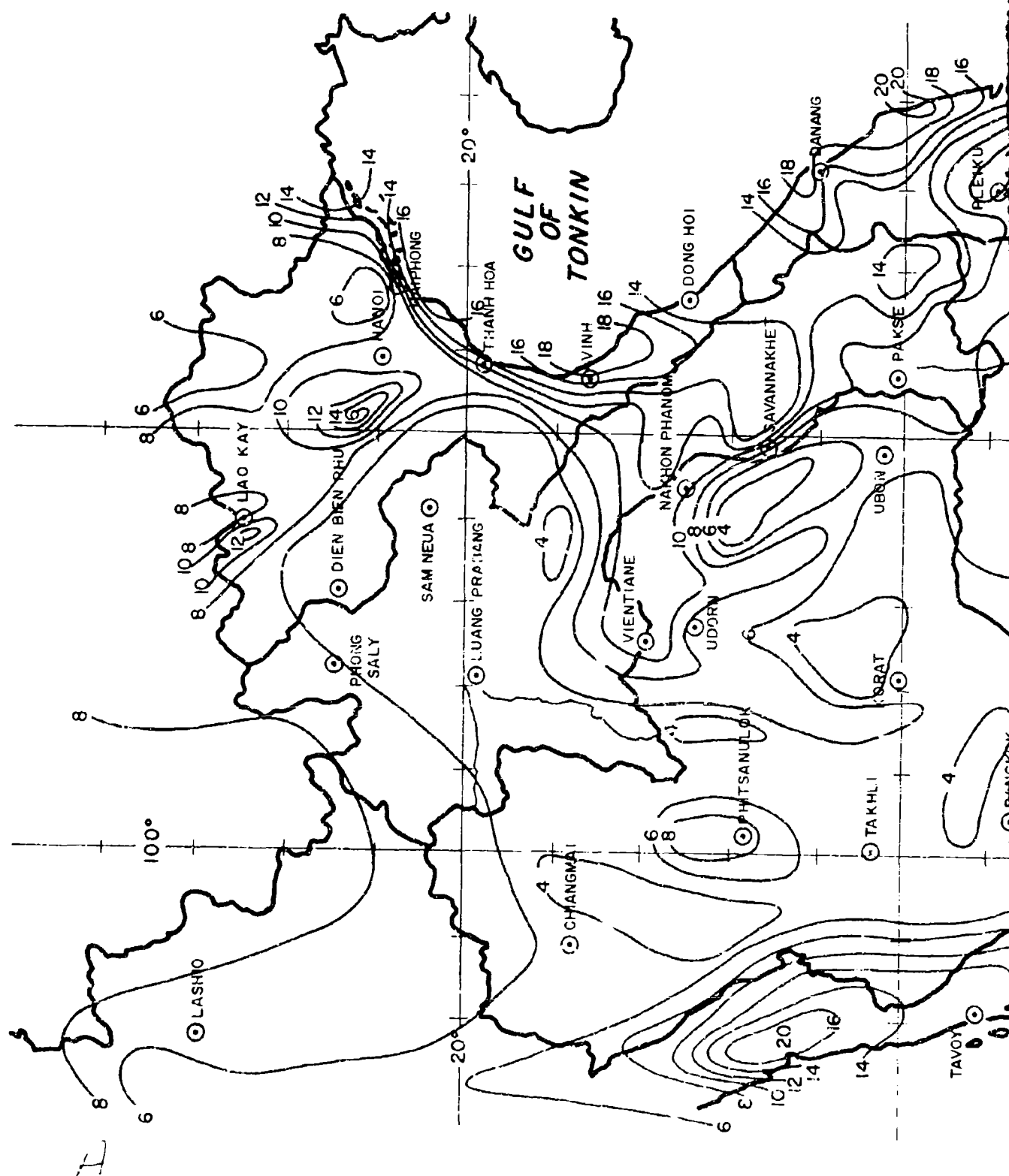


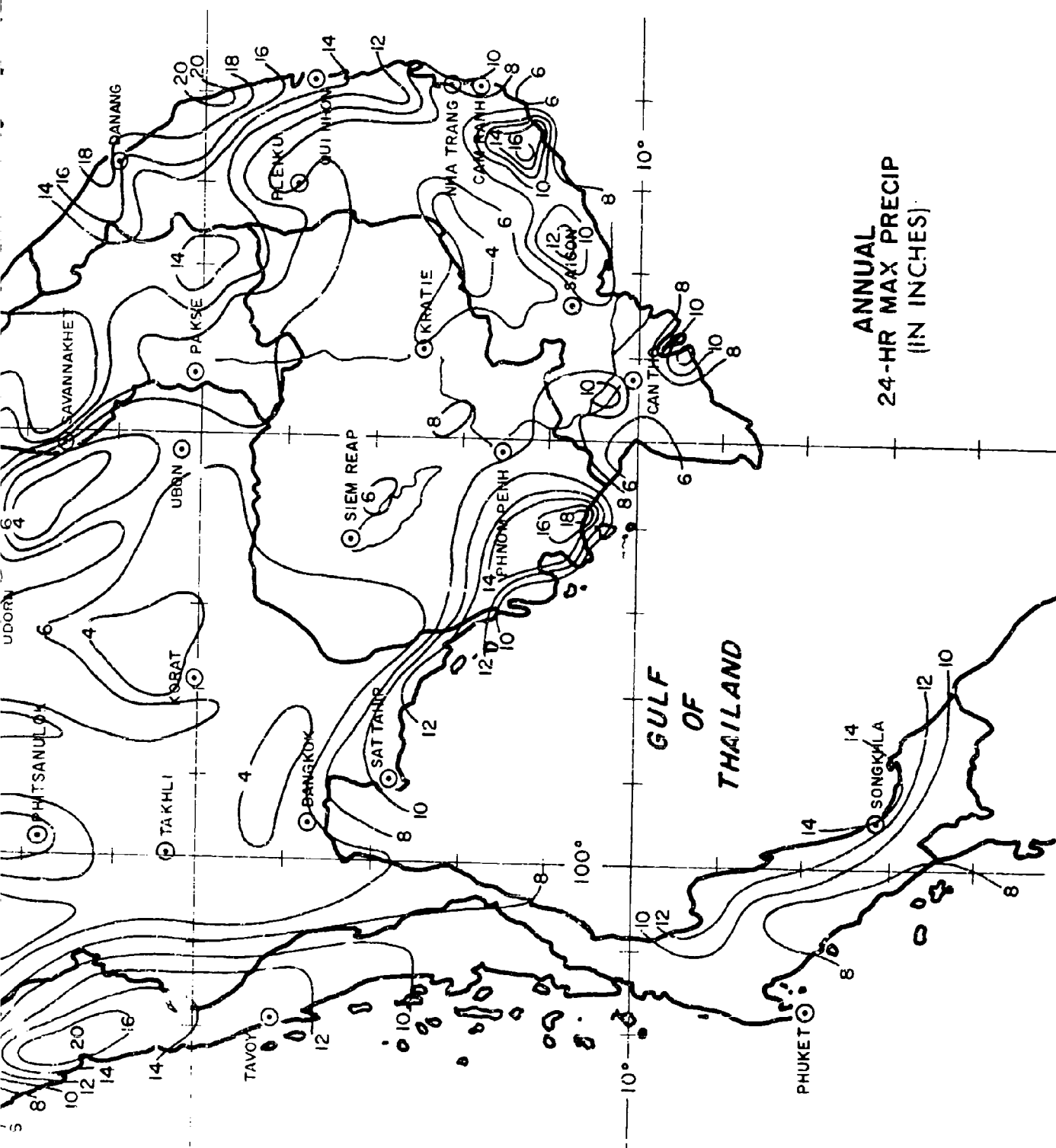
DECEMBER
NO. OF DAYS WITH PRECIP

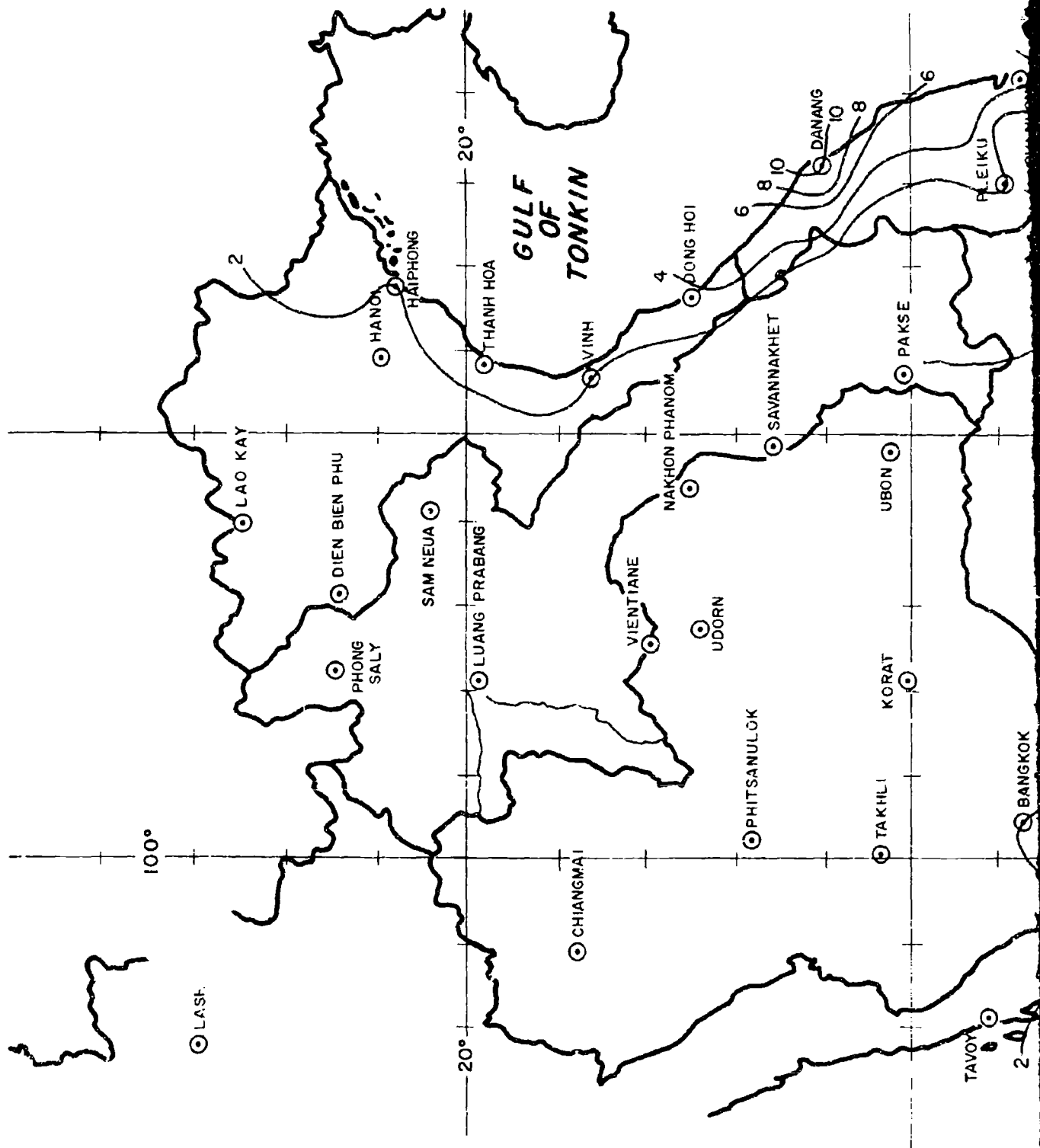
B

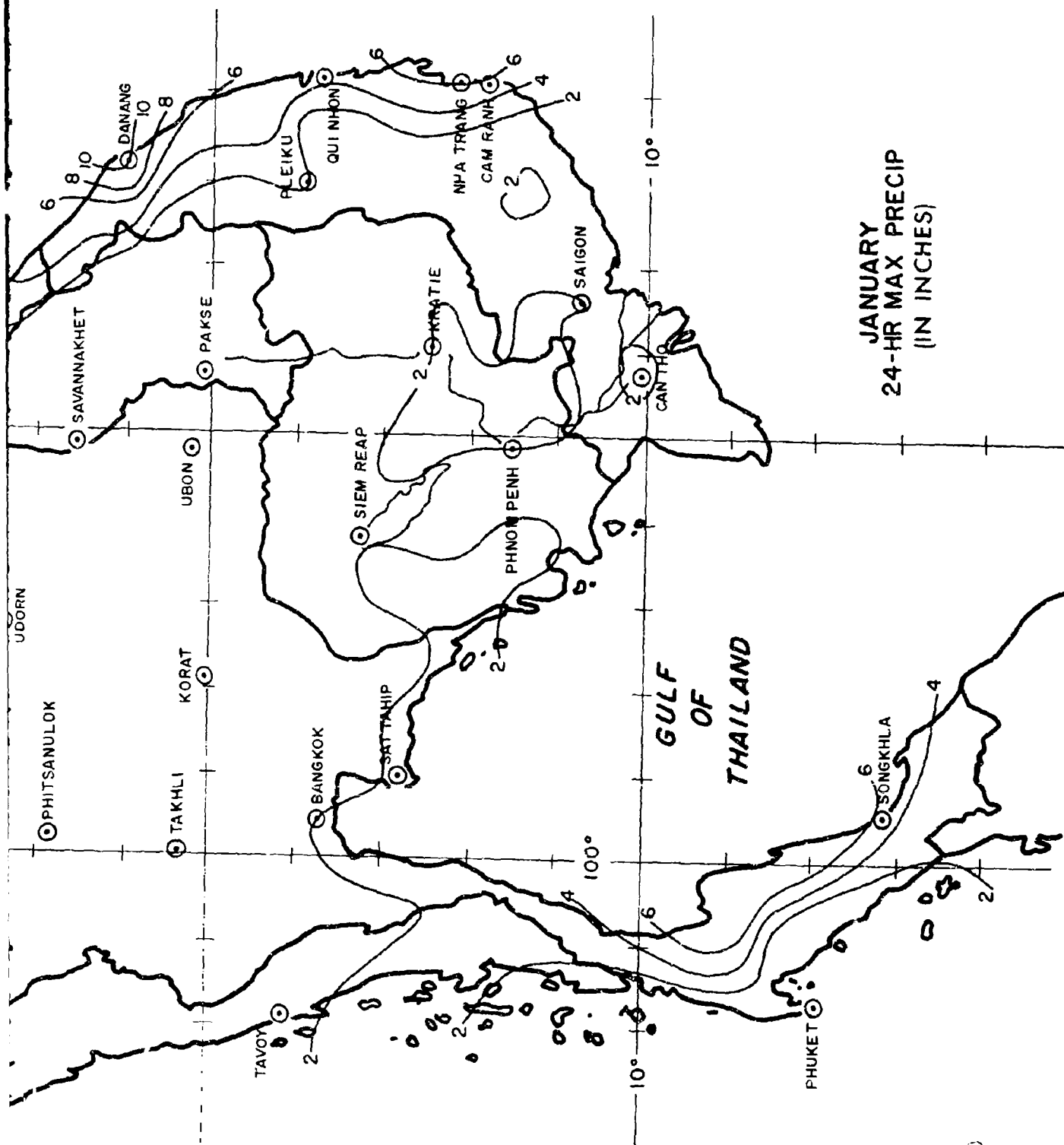
SECTION V

**MAXIMUM 24-HOUR
PRECIPITATION**



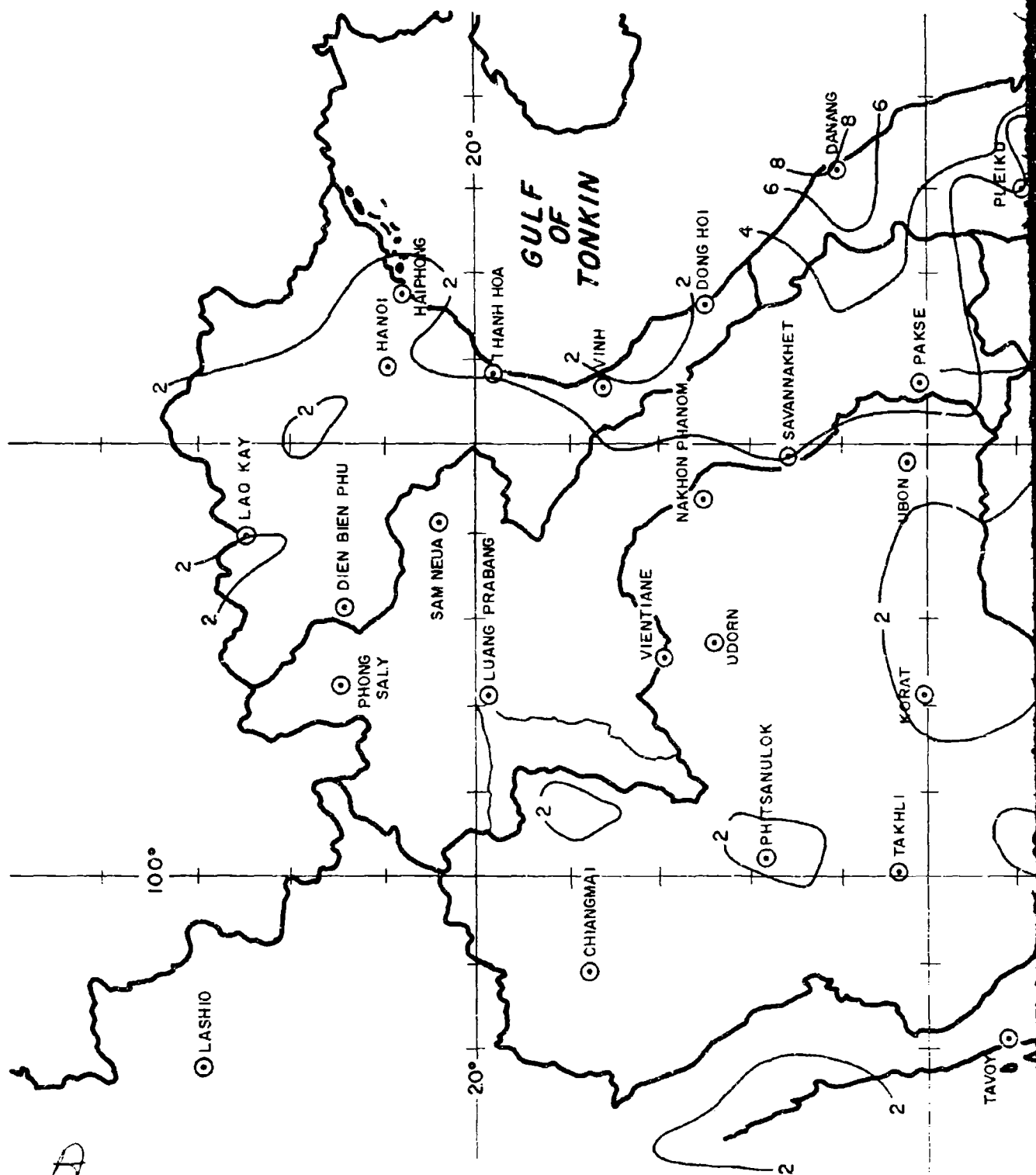


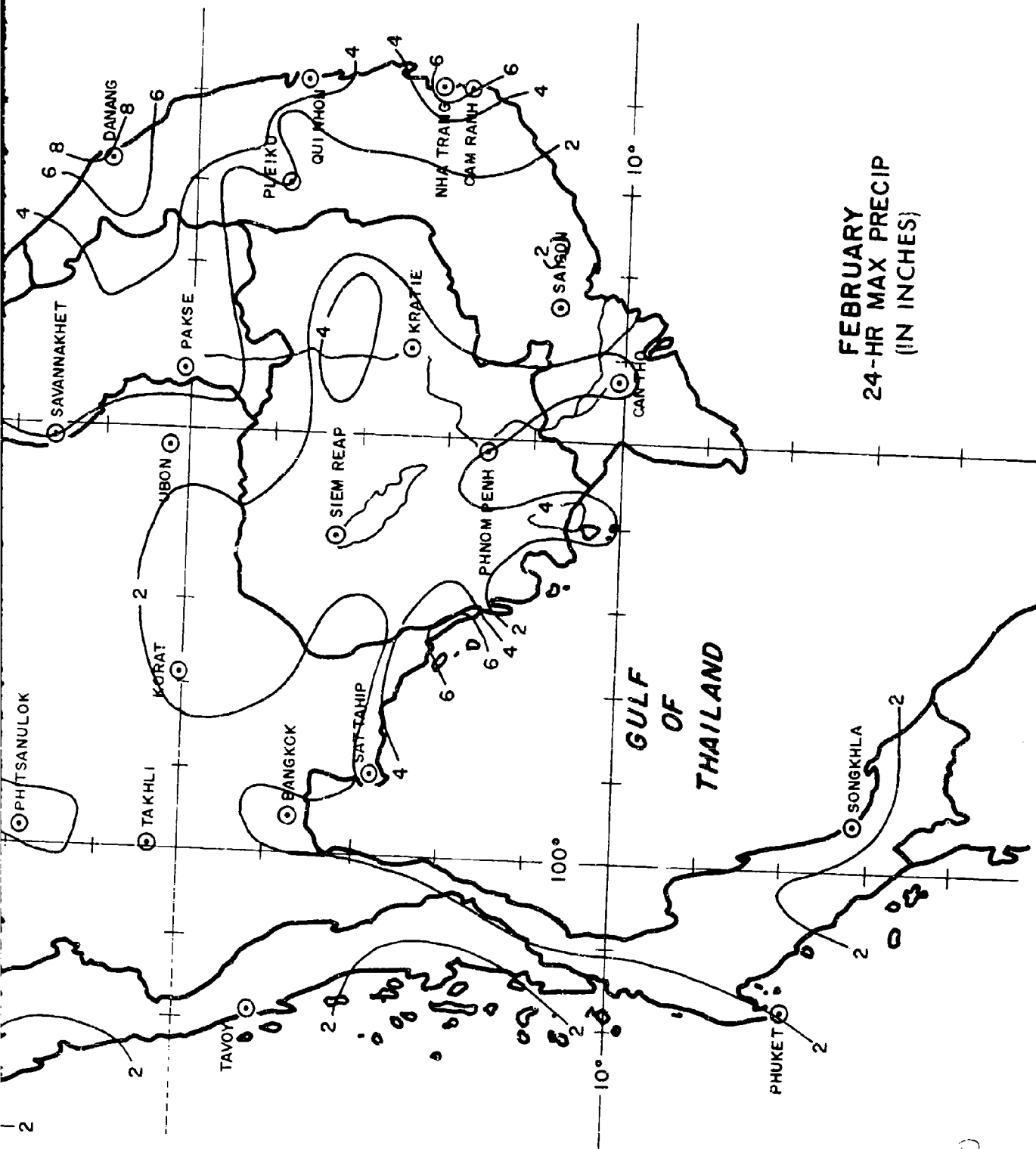




JANUARY
24-HR MAX PRECIP
(IN INCHES)

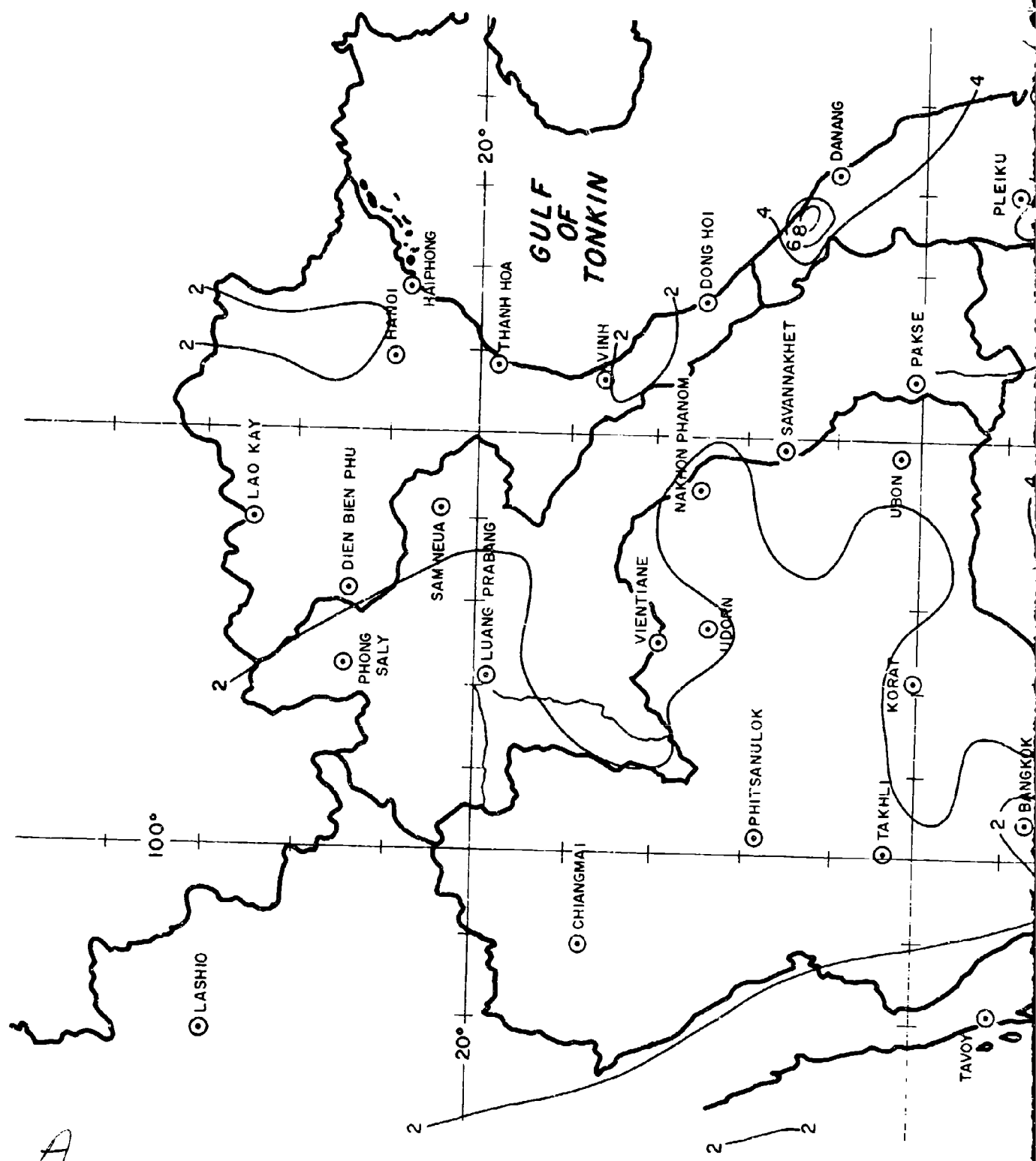
B

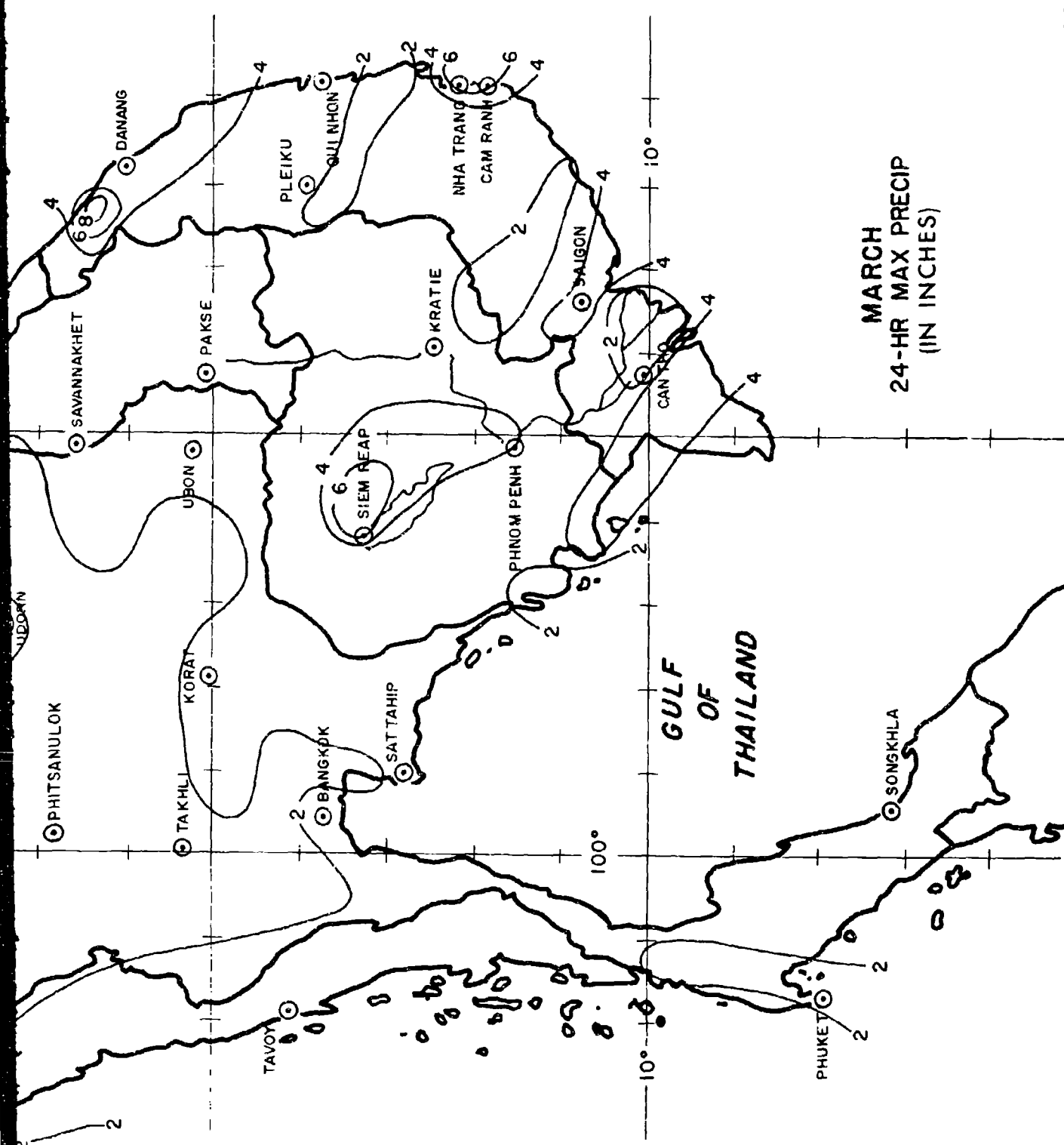




FEBRUARY
24-HR MAX PRECIP
(IN INCHES)

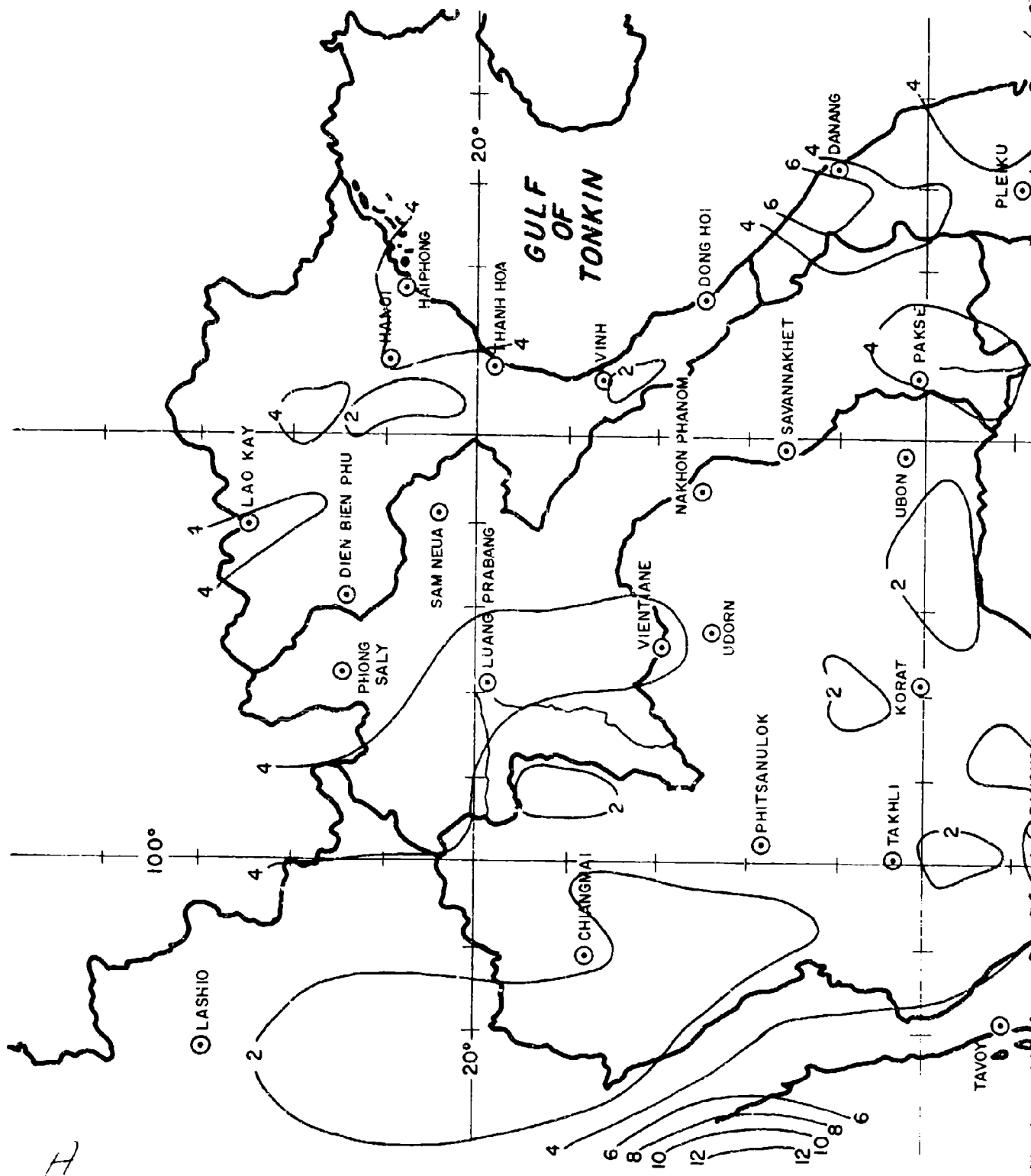
B

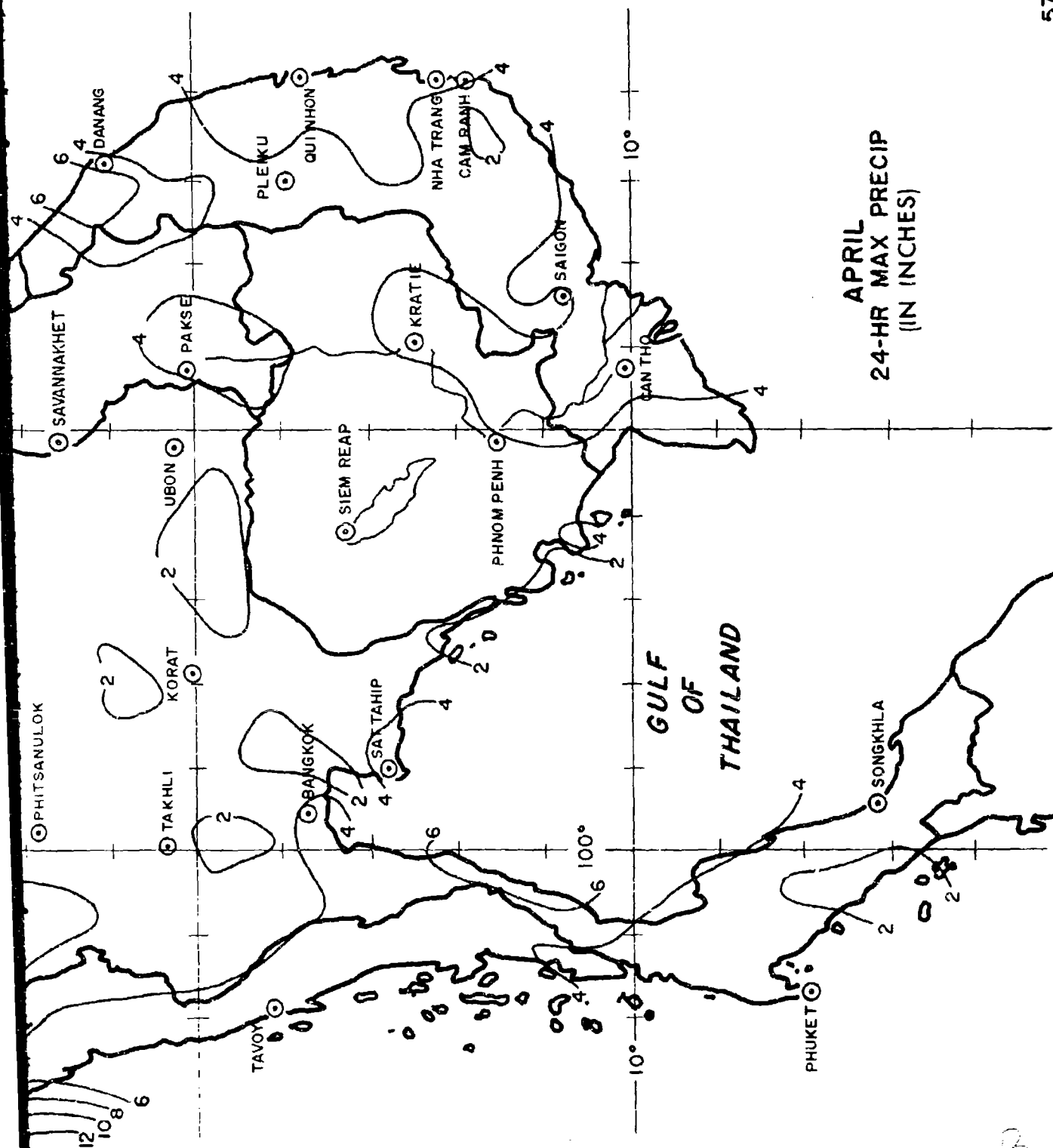




MARCH
24-HR MAX PRECIP
(IN INCHES)

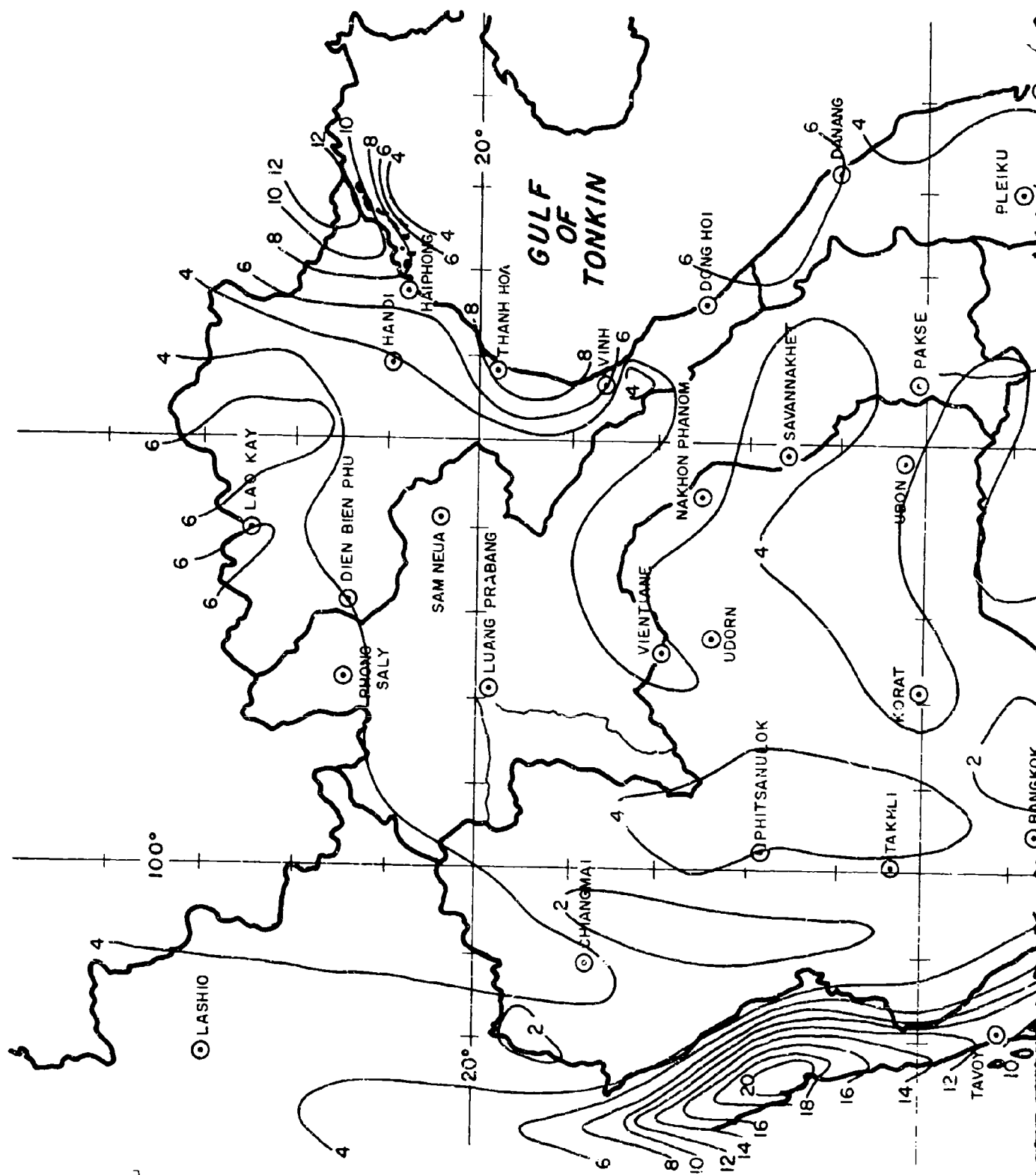
B

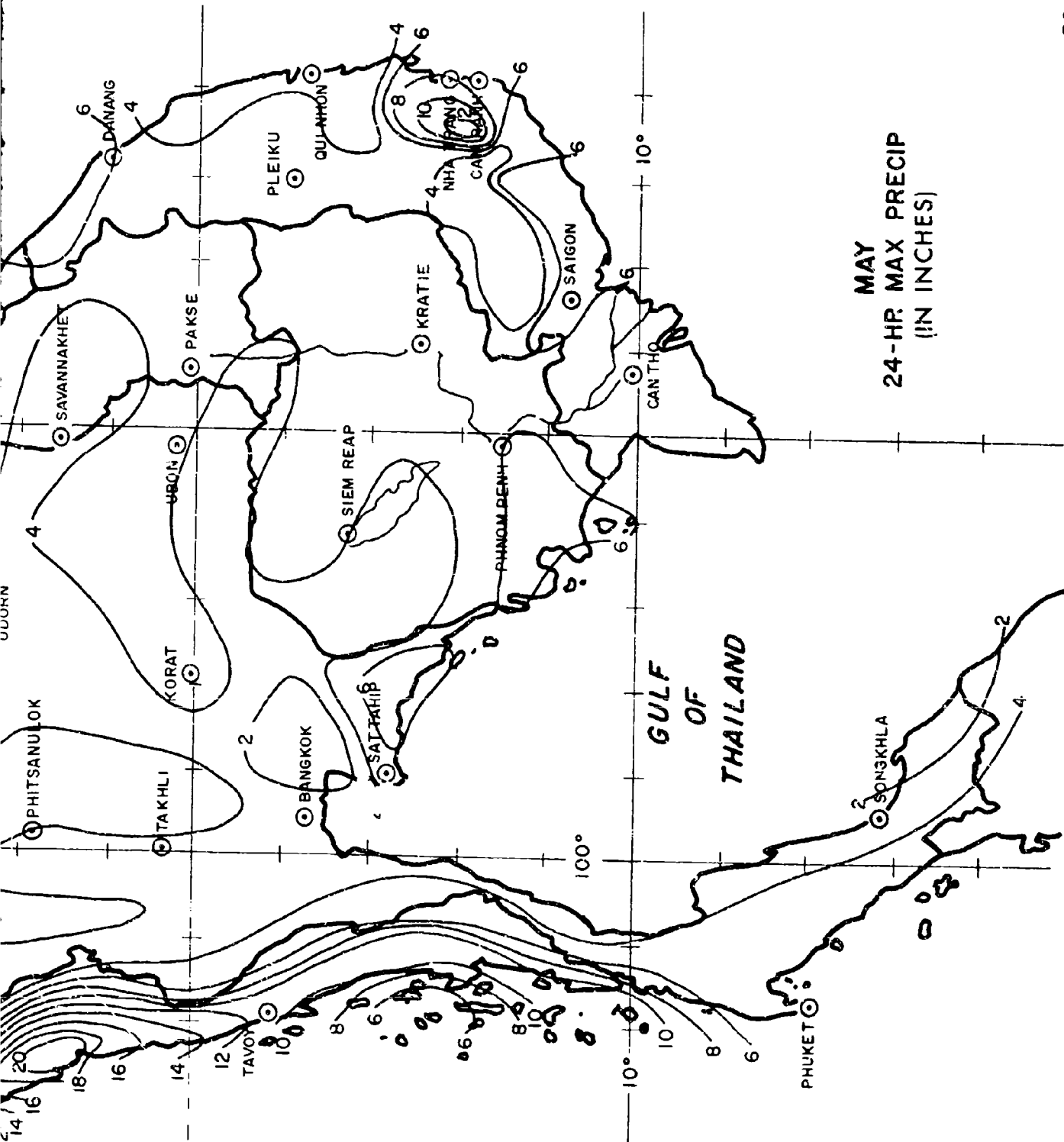




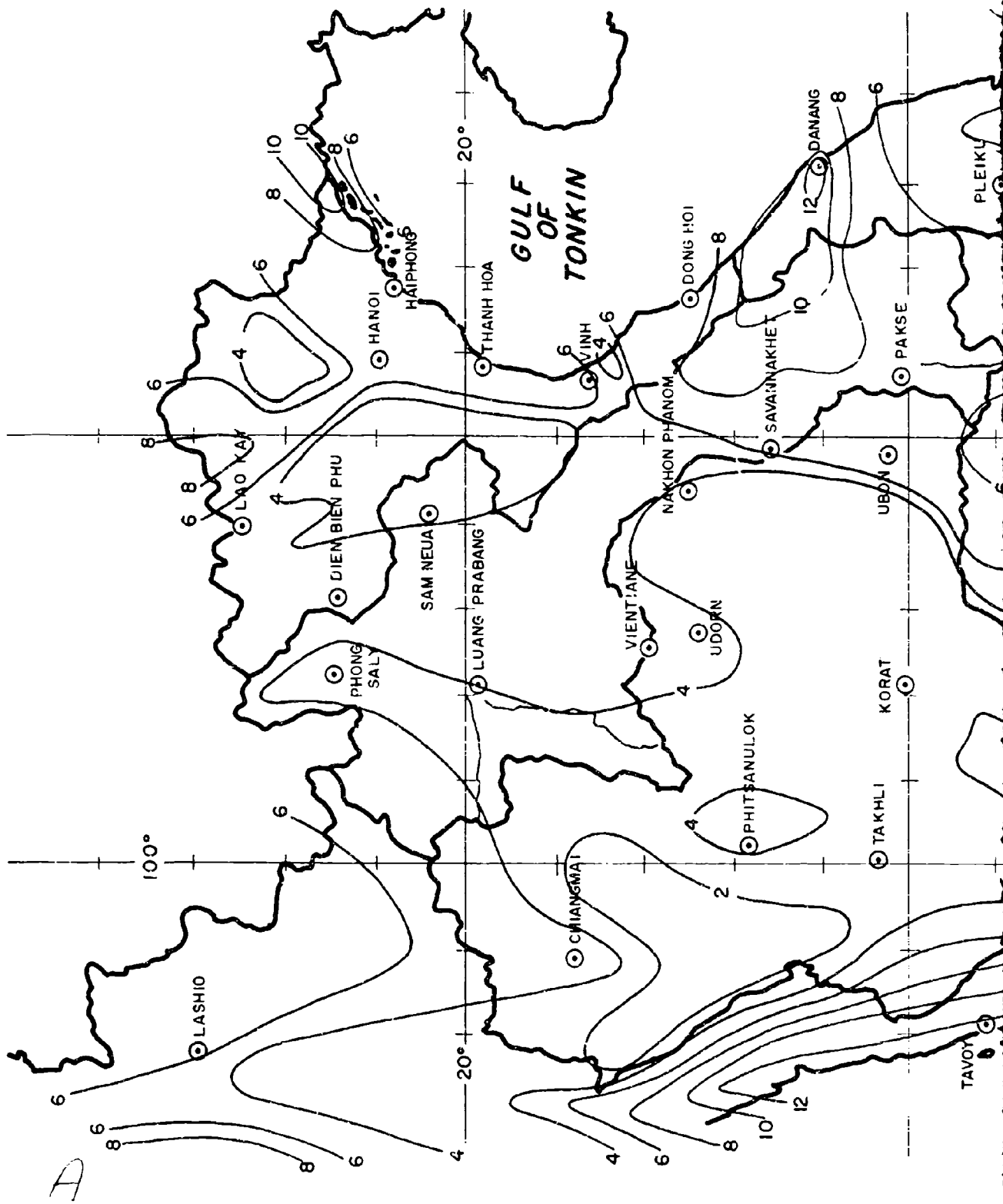
APRIL
24-HR MAX PRECIP
(IN INCHES)

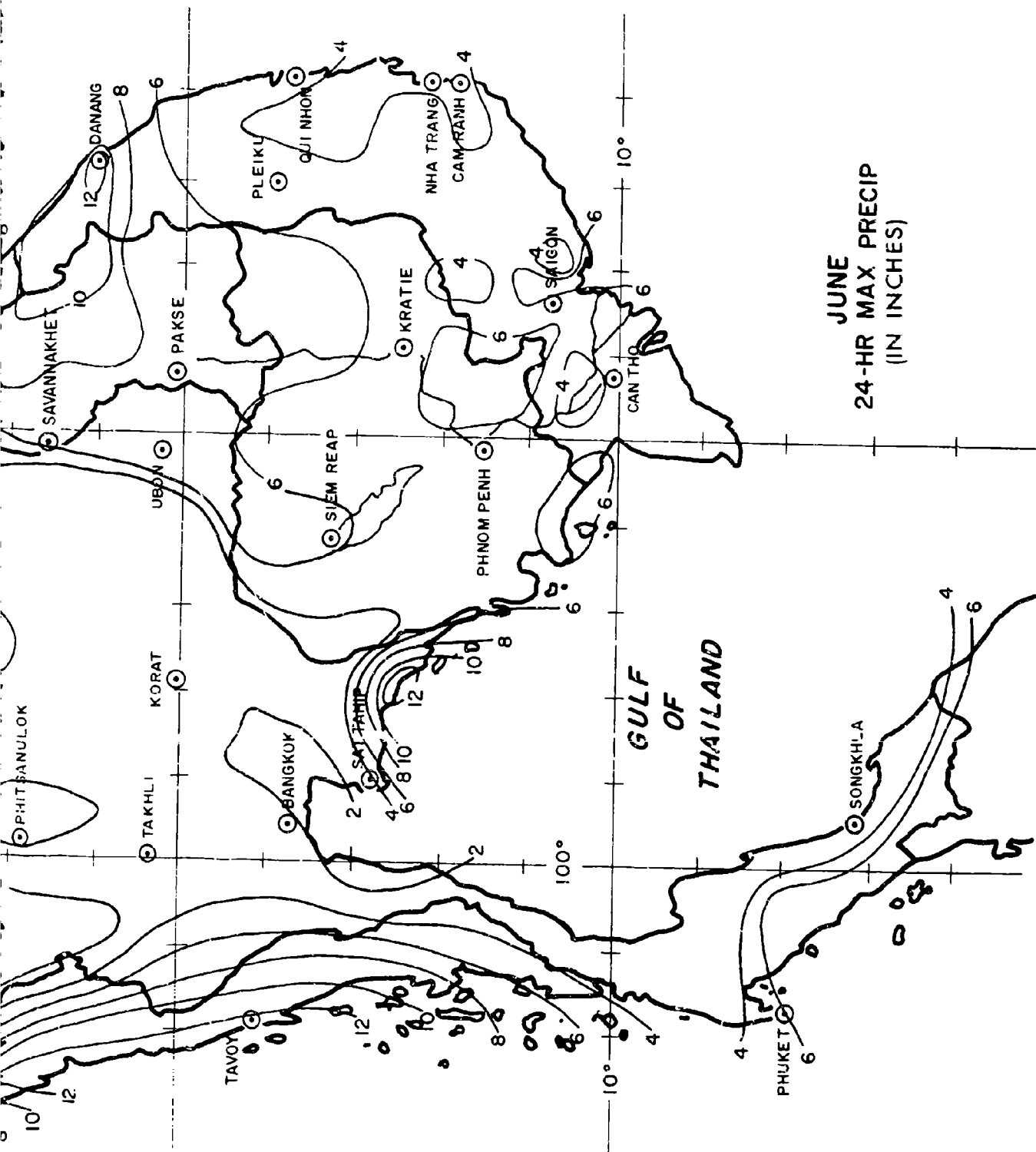
B



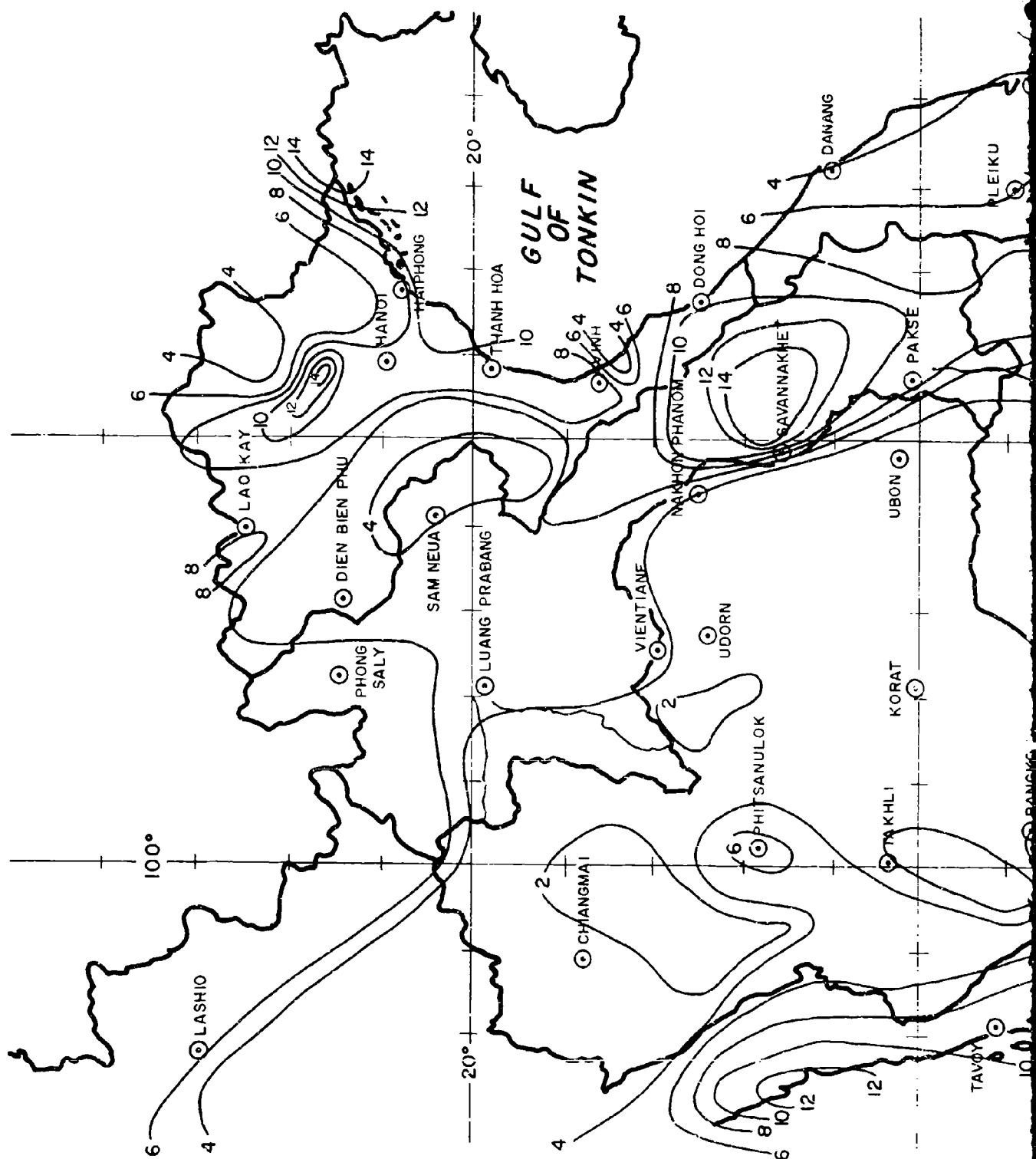


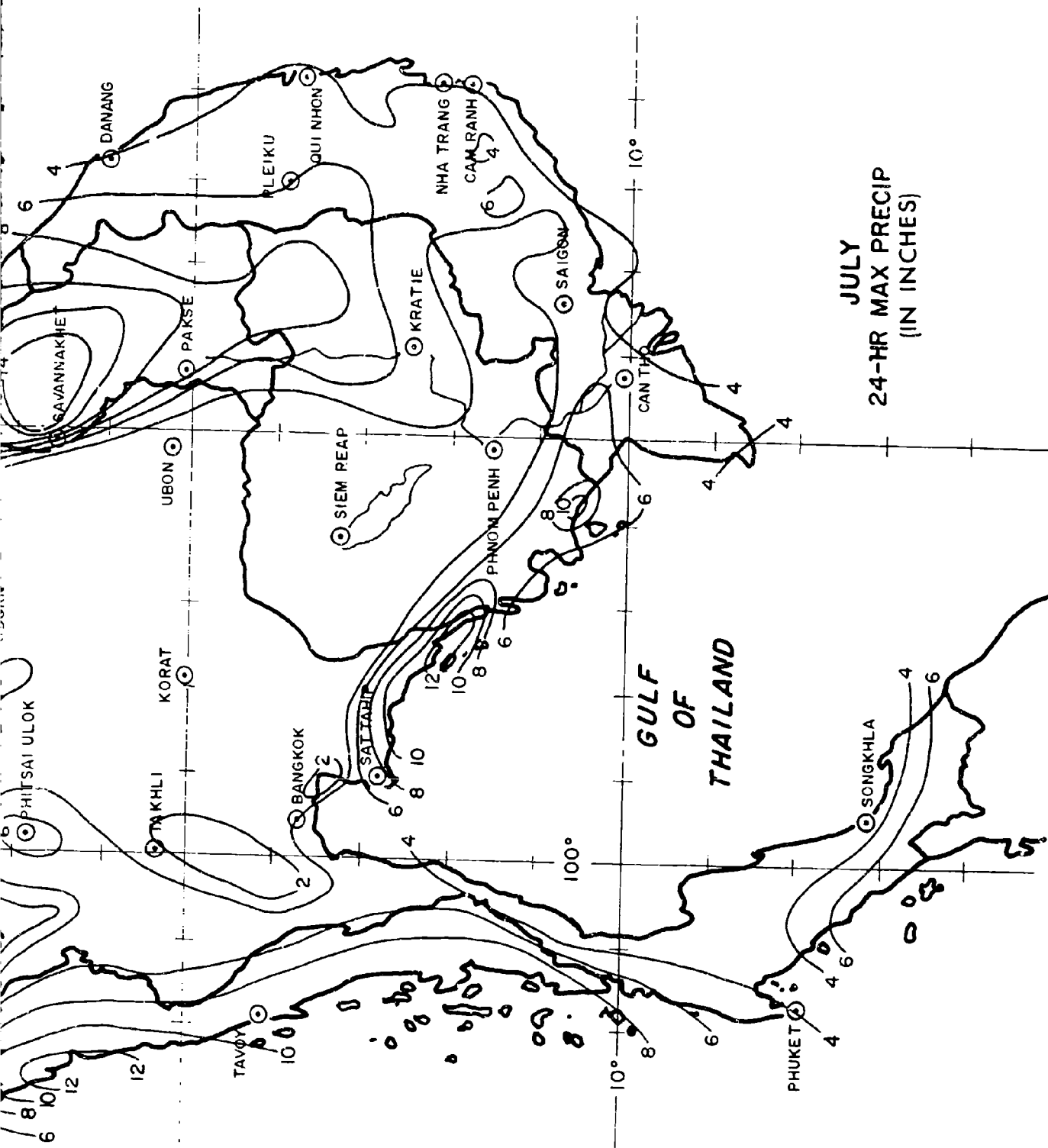
MAY
24-HR MAX PRECIP
(IN INCHES)



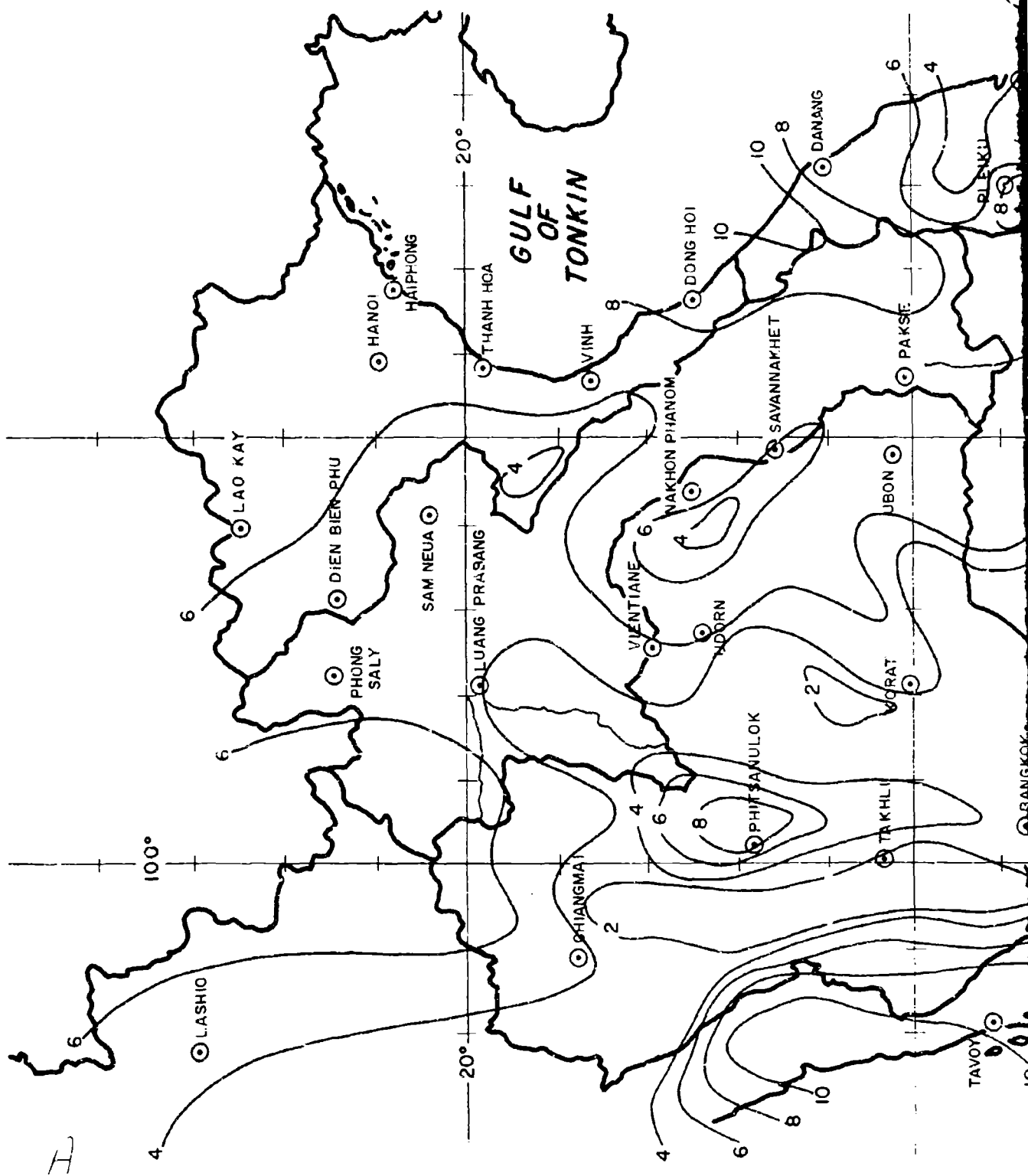


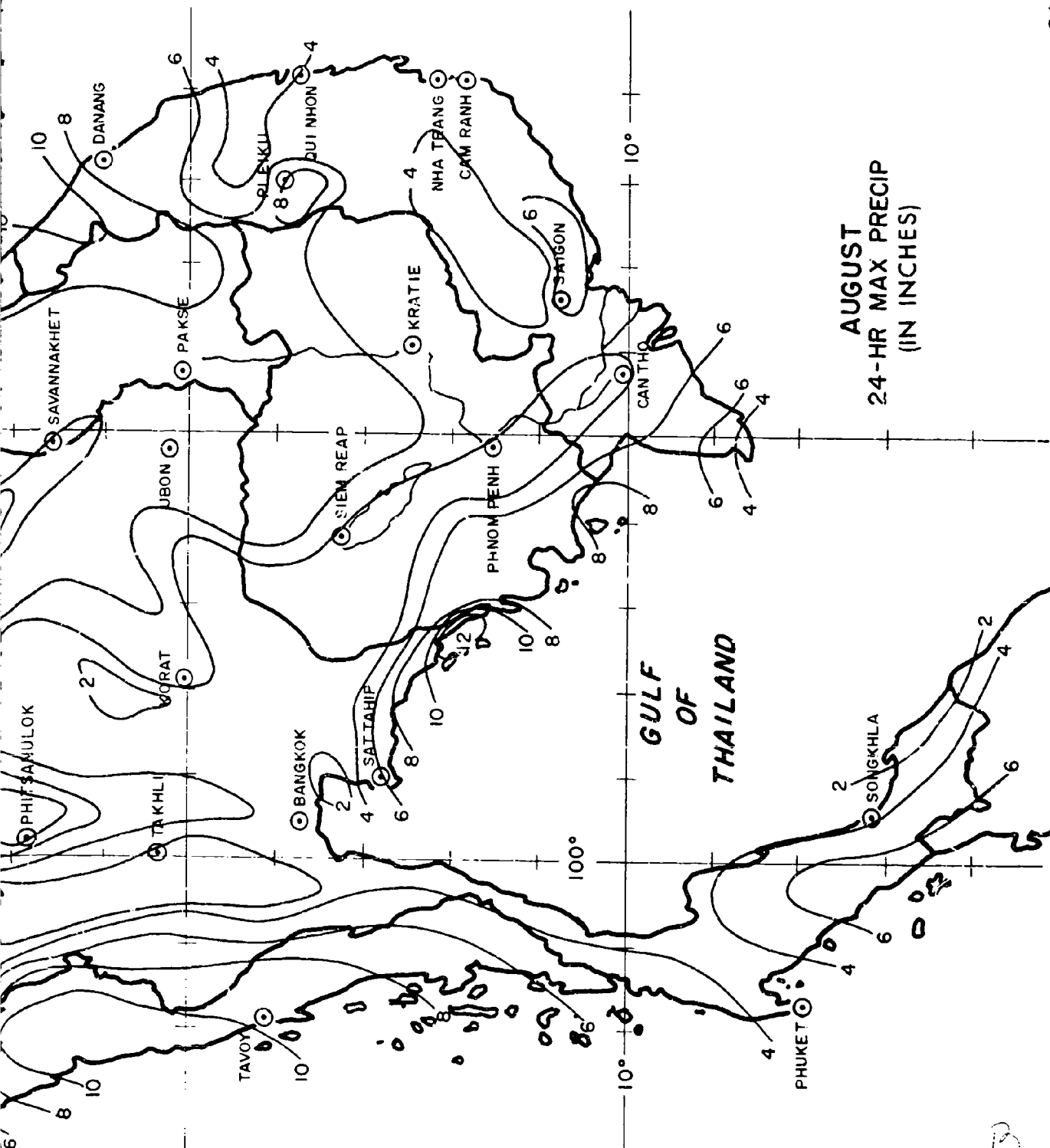
3



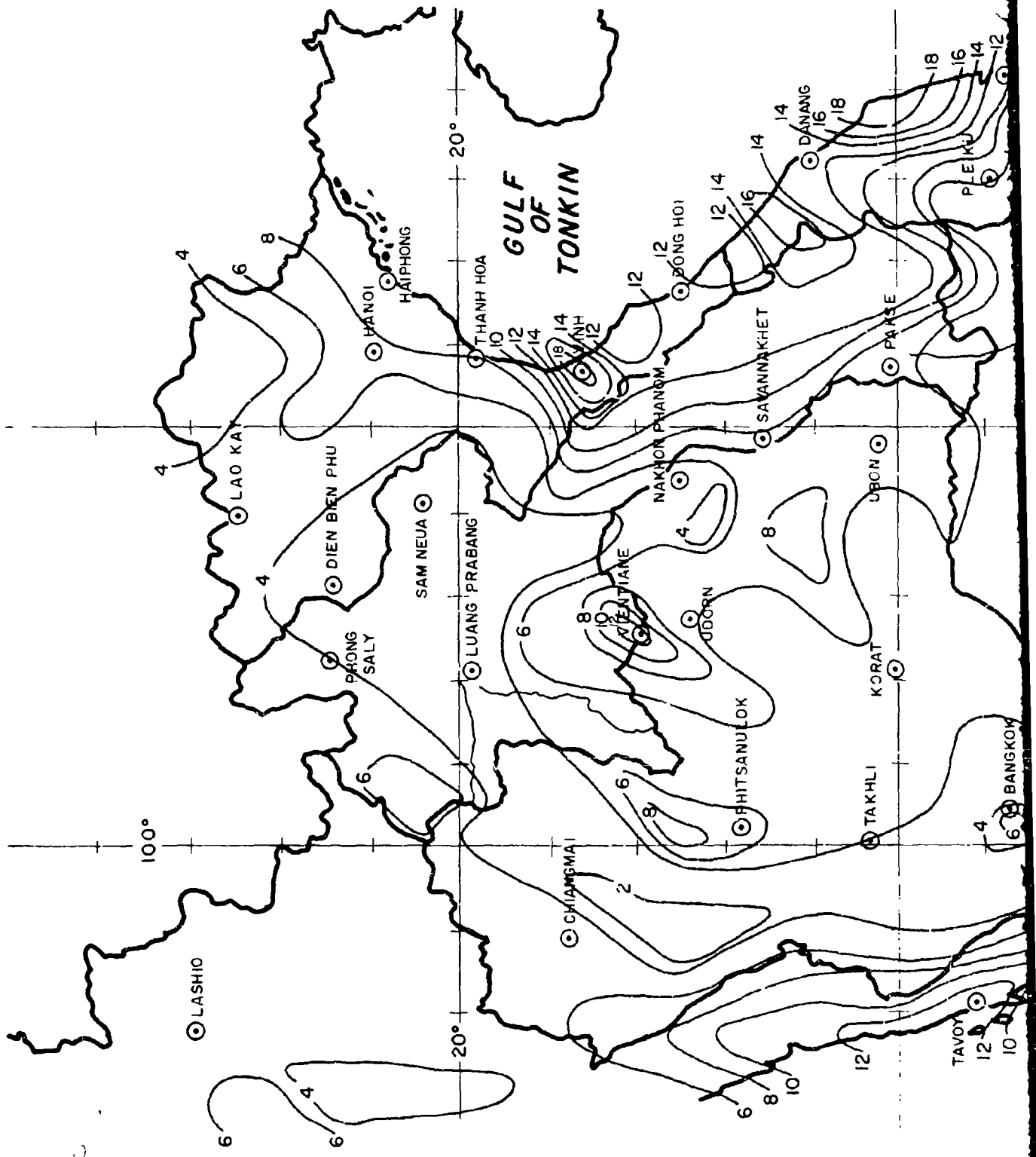


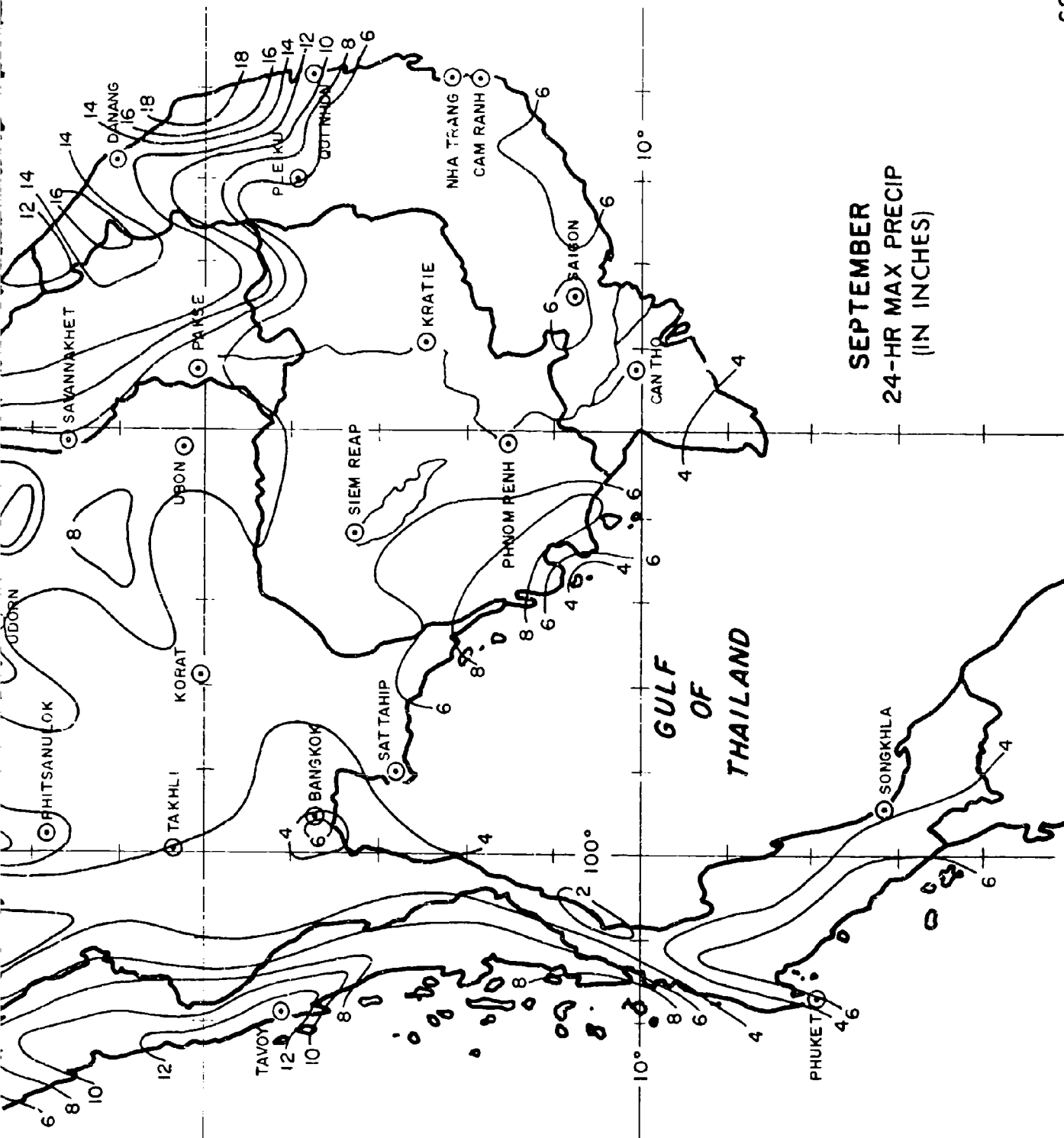
JULY
24-HR MAX PRECIP
(IN INCHES)



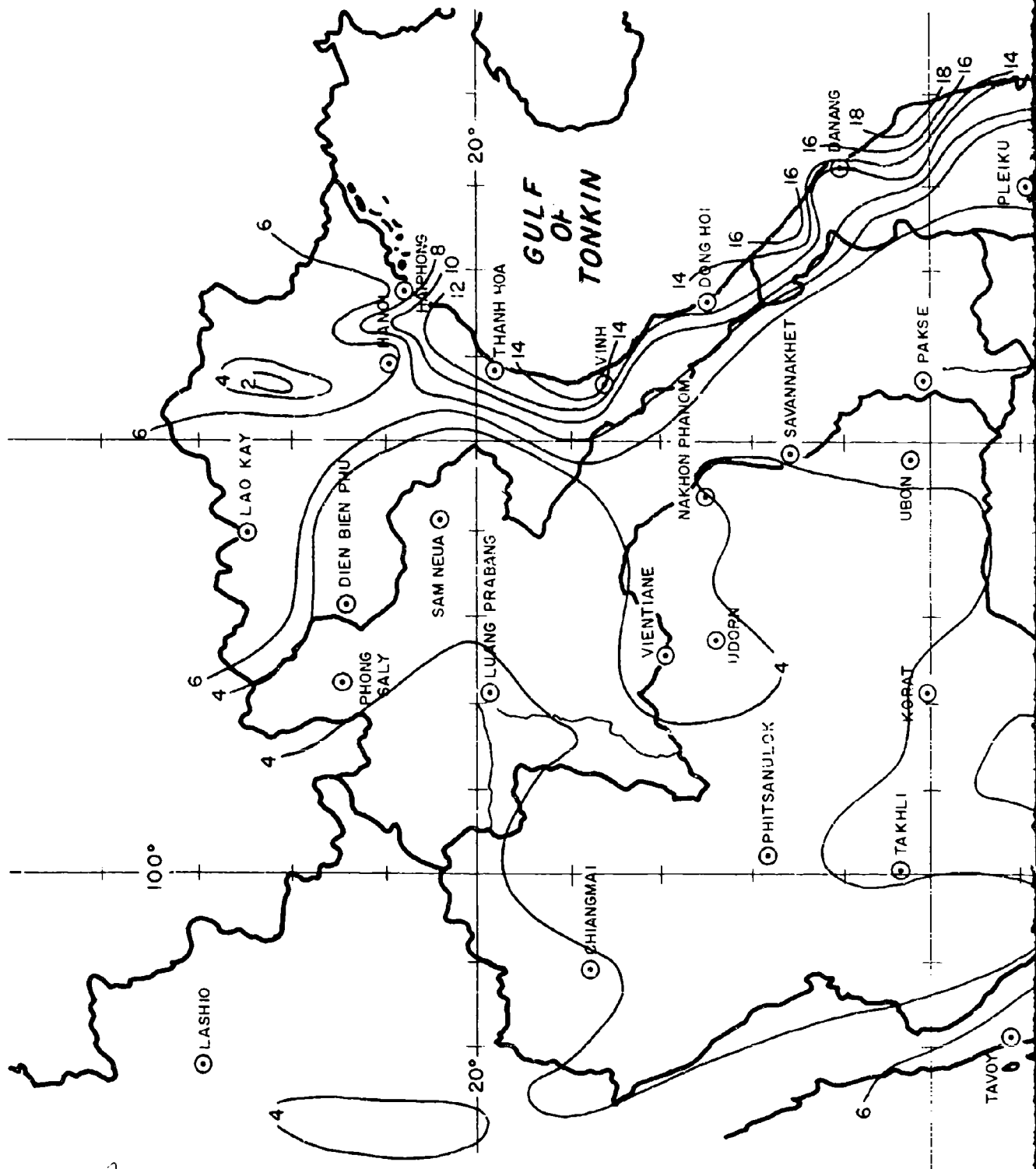


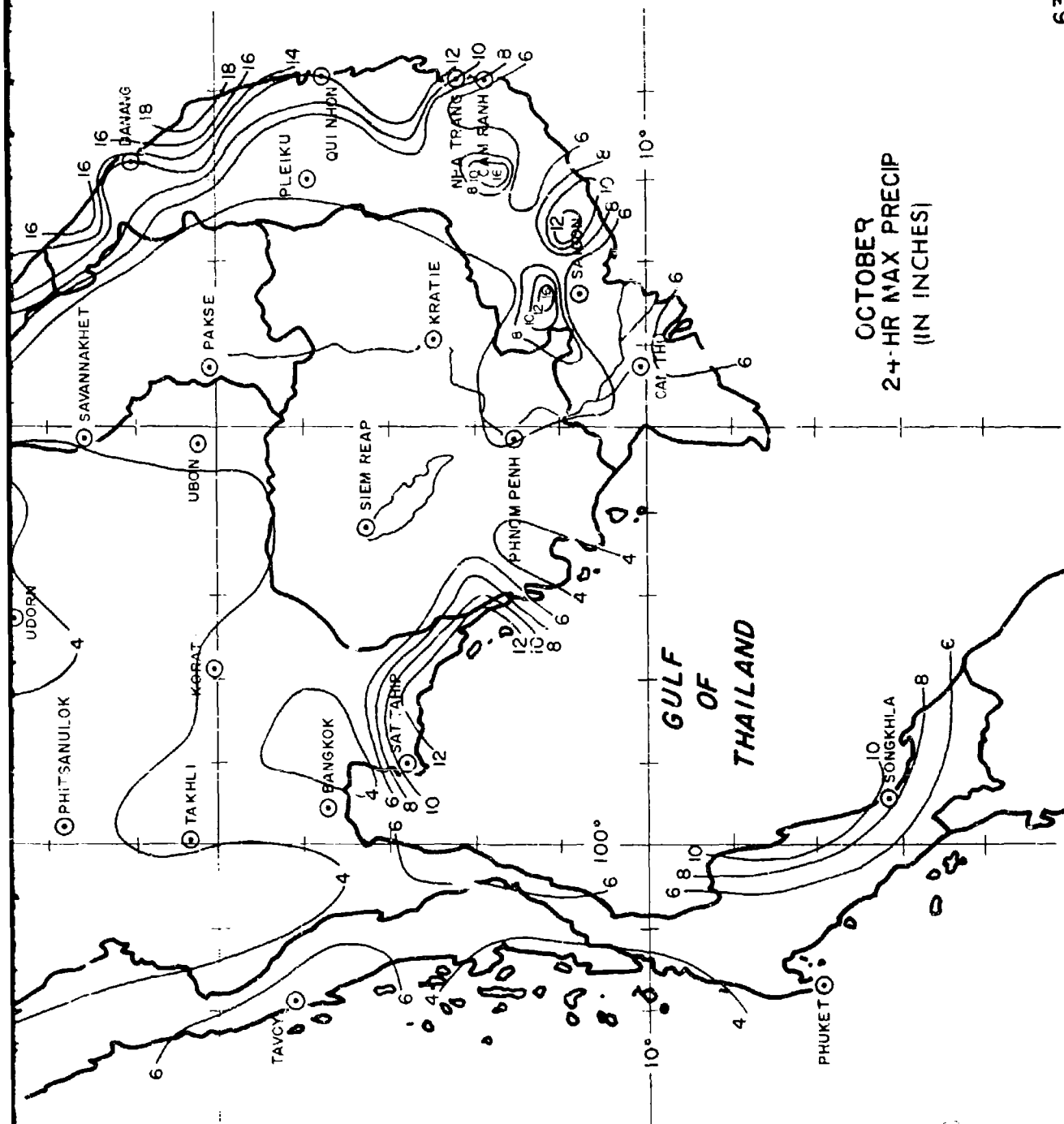
AUGUST
24-HR MAX PRECIP
(IN INCHES)



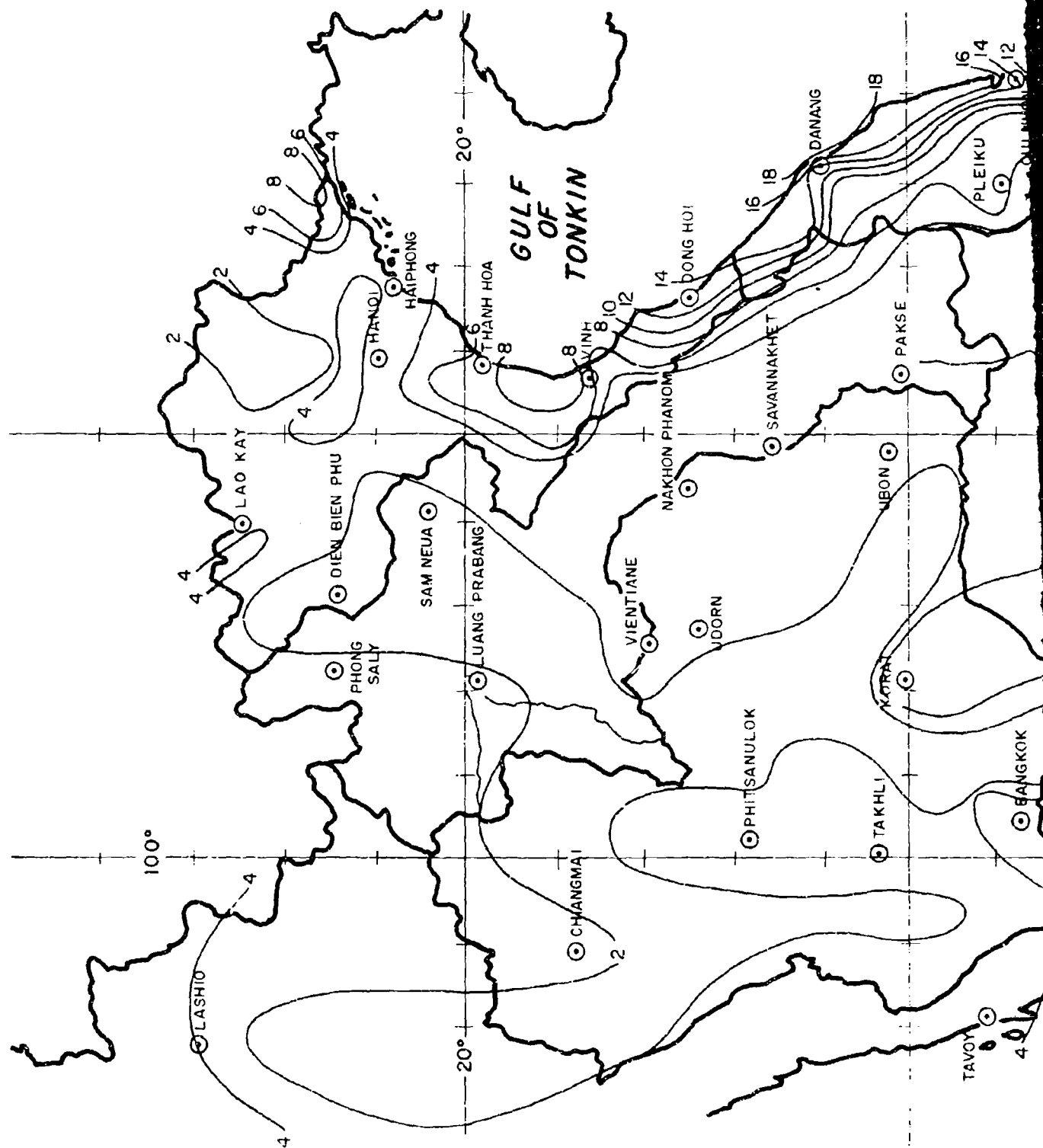


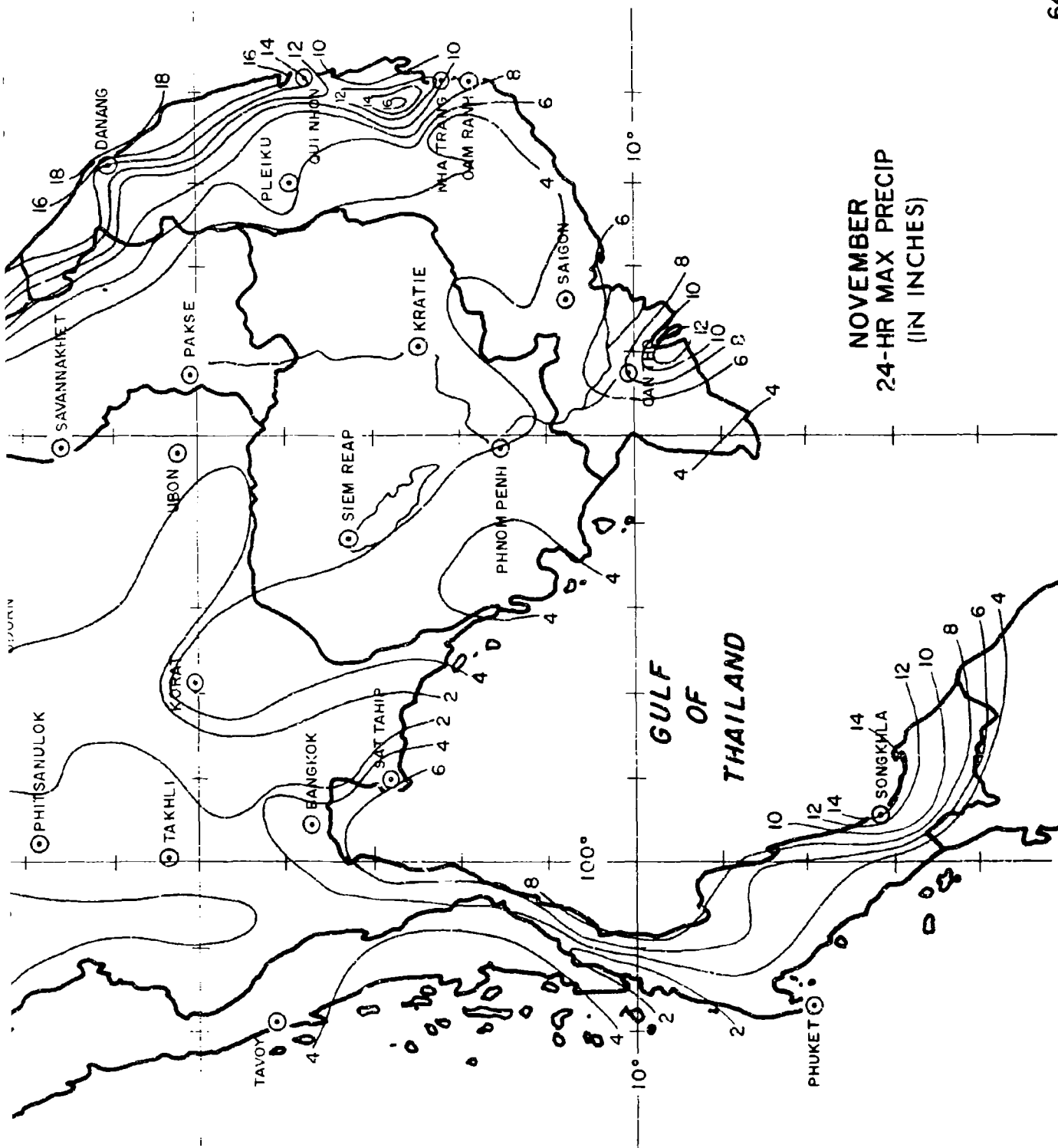
SEPTEMBER
24-HR MAX PRECIP
(IN INCHES)



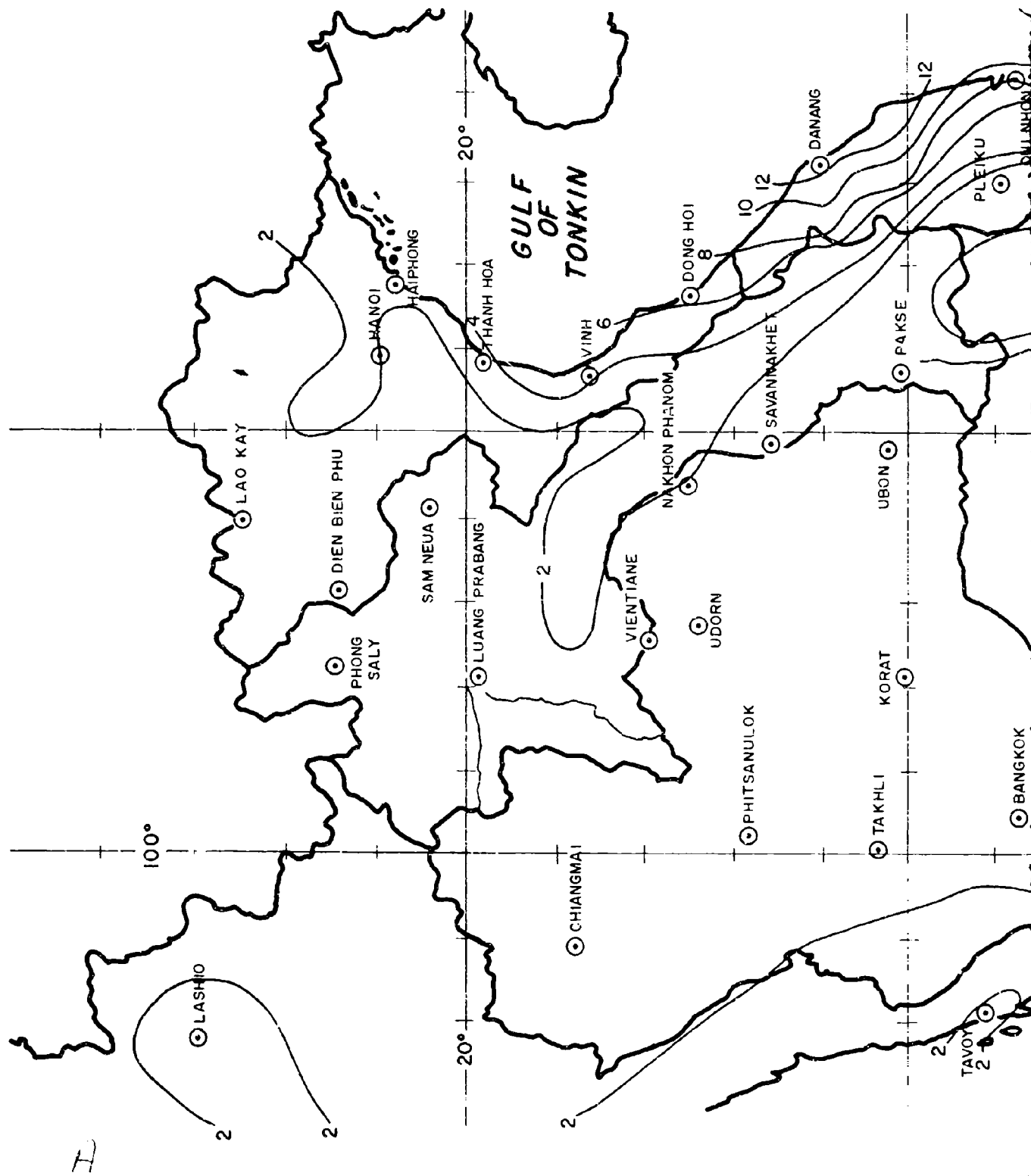


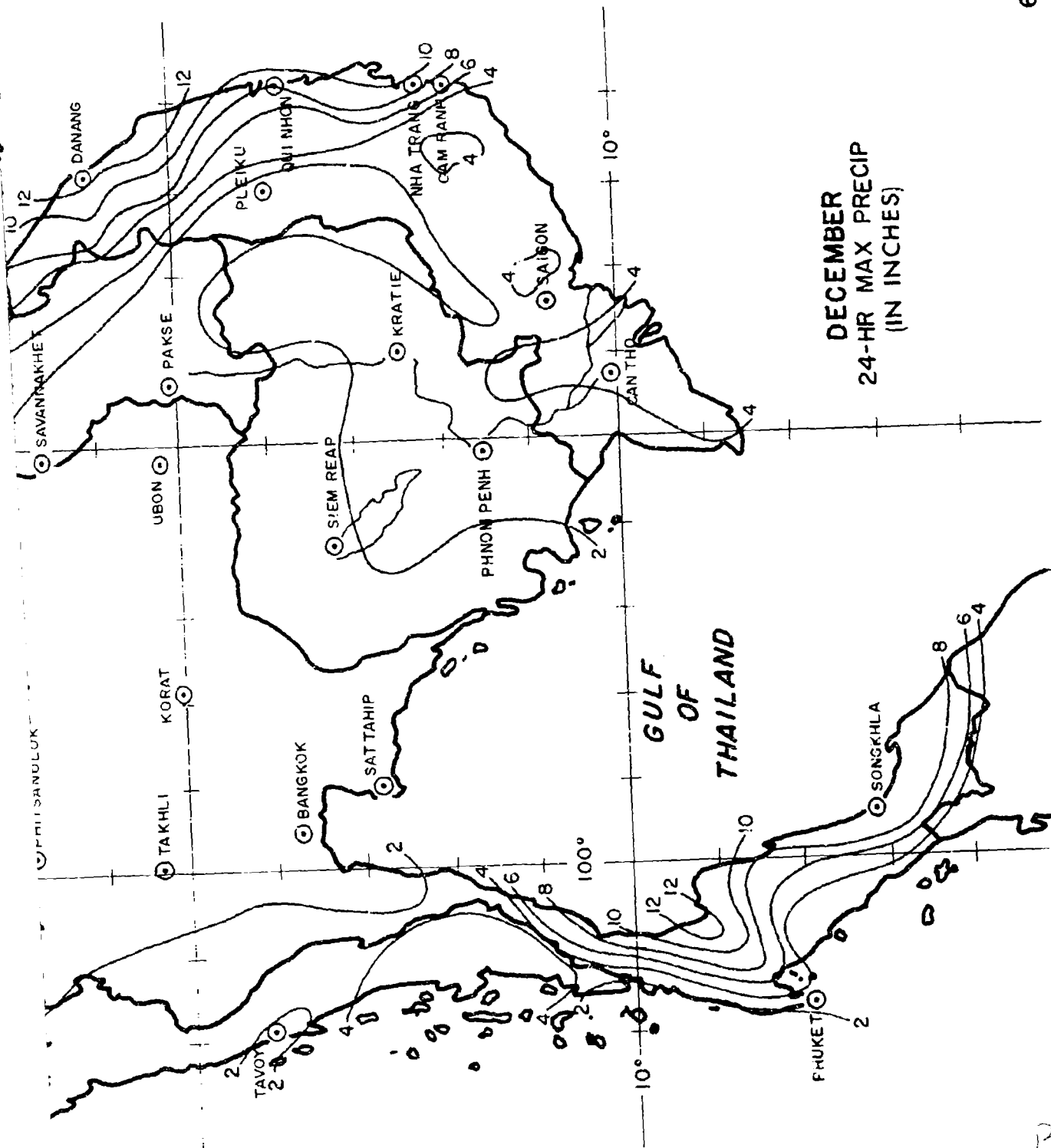
OCTOBER
24-HR MAX PRECIP
(IN INCHES)





NOVEMBER
24-HR MAX PRECIP
(IN INCHES)

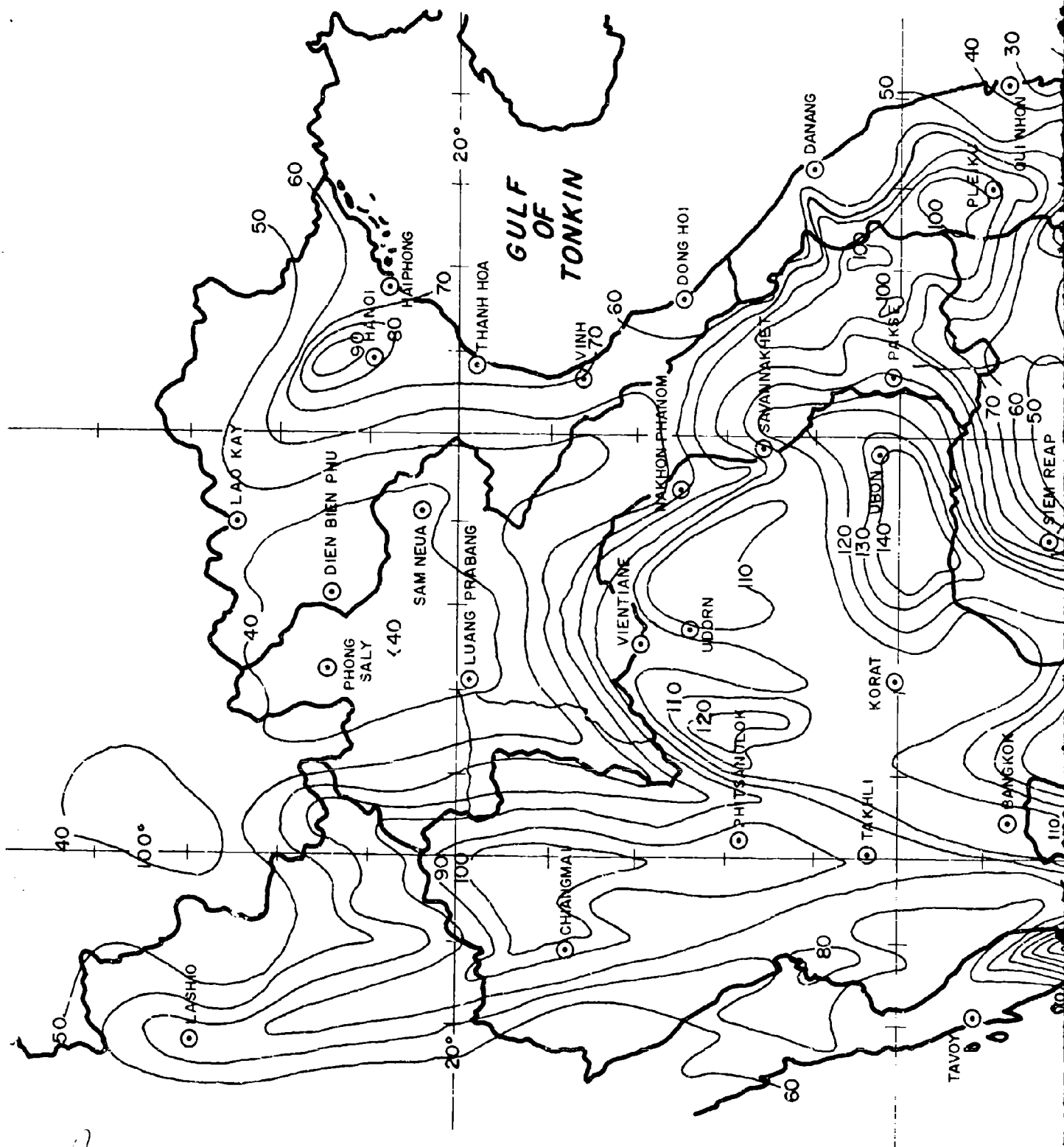


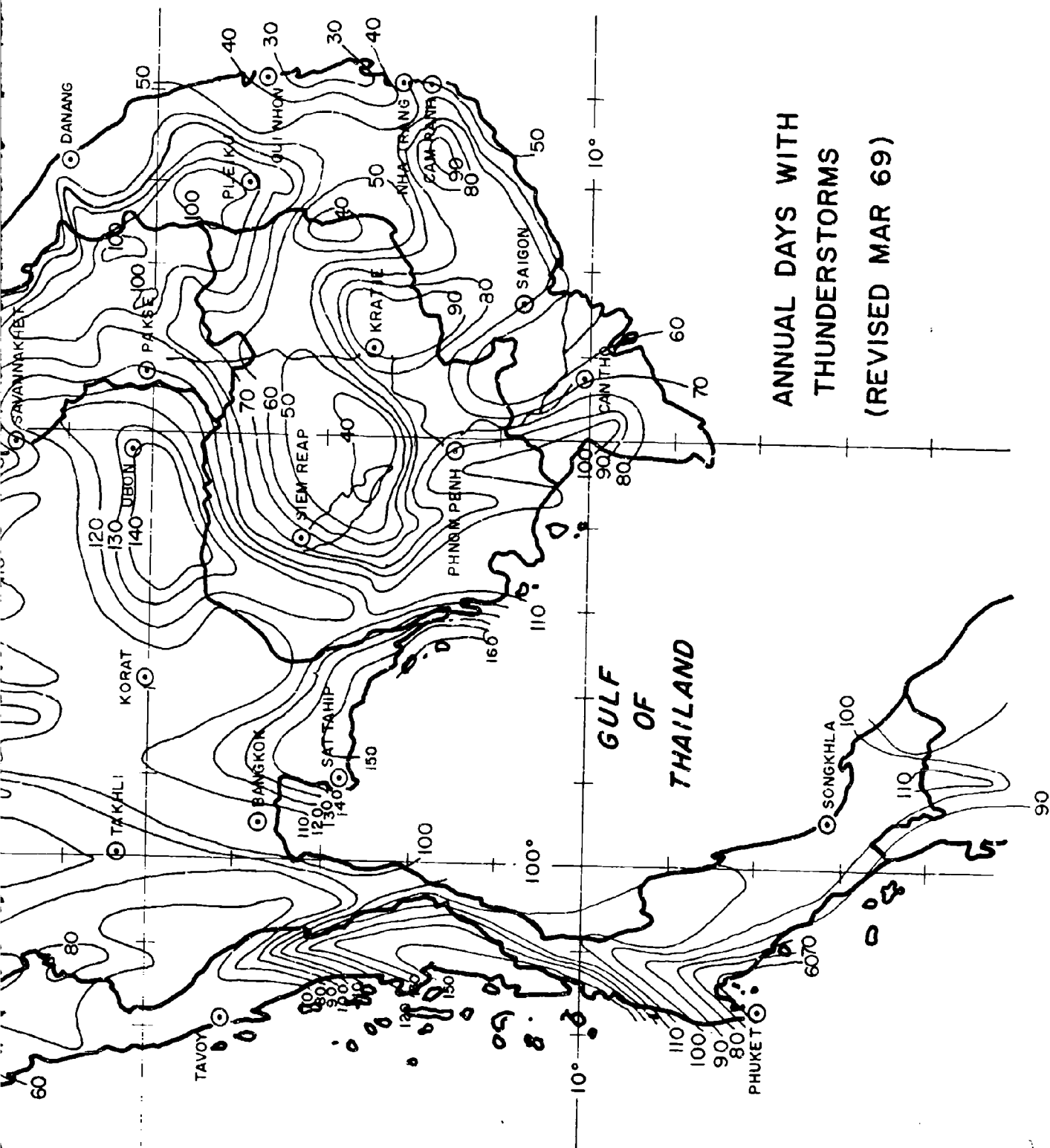


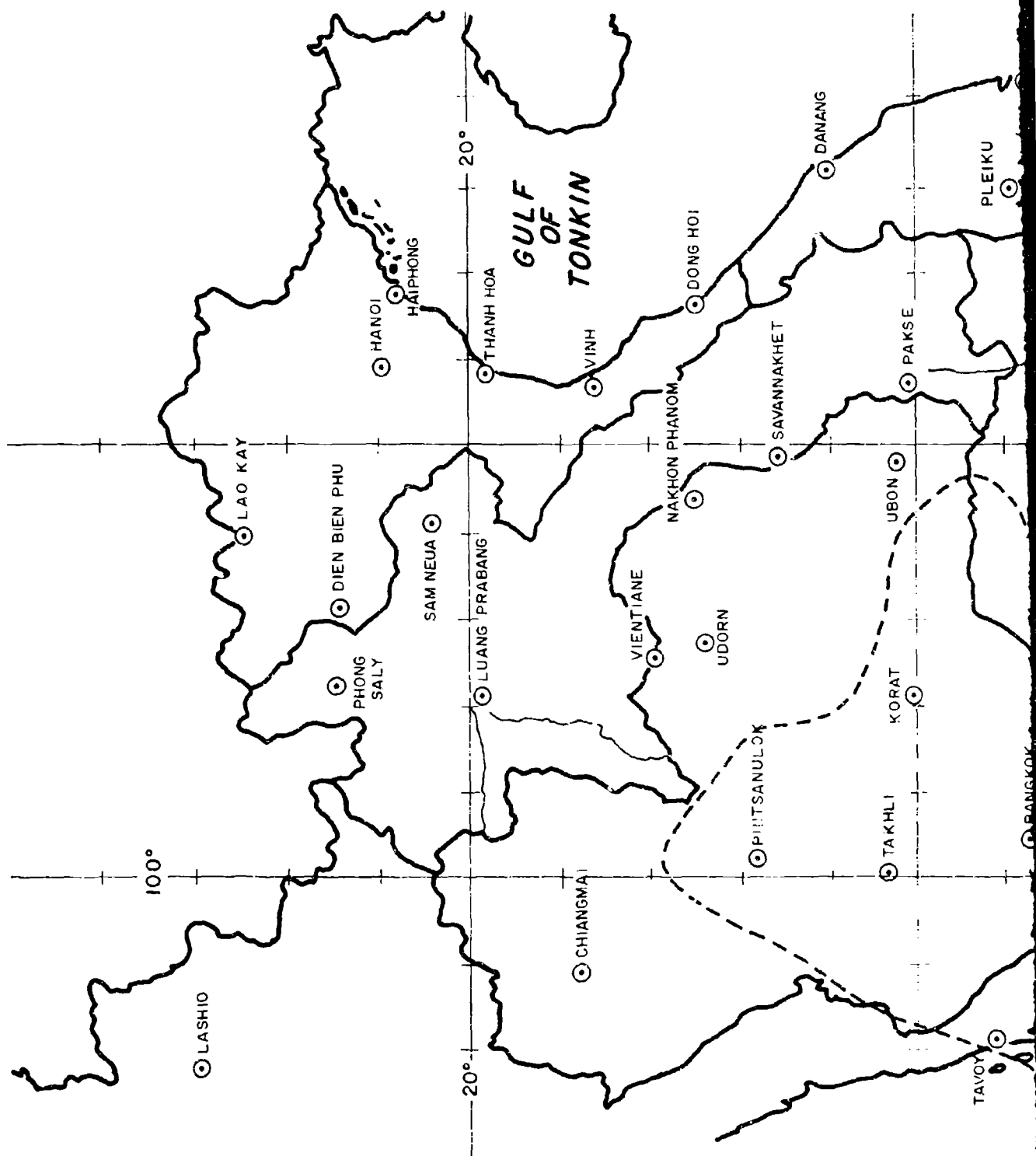
DECEMBER
24-HR MAX PRECIP
(IN INCHES)

SECTION VI

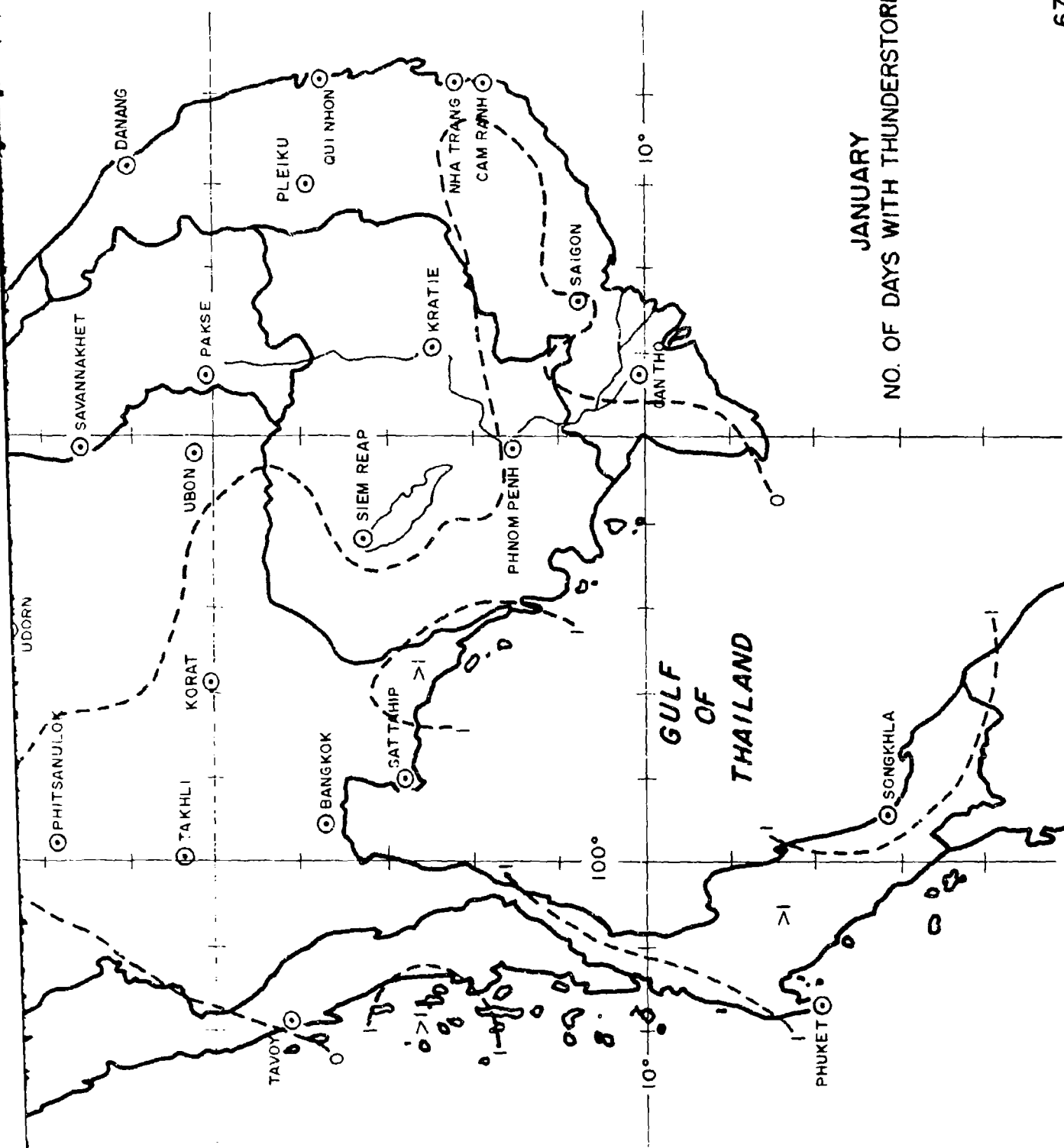
**MEAN NUMBER OF DAYS
WITH THUNDERSTORMS**





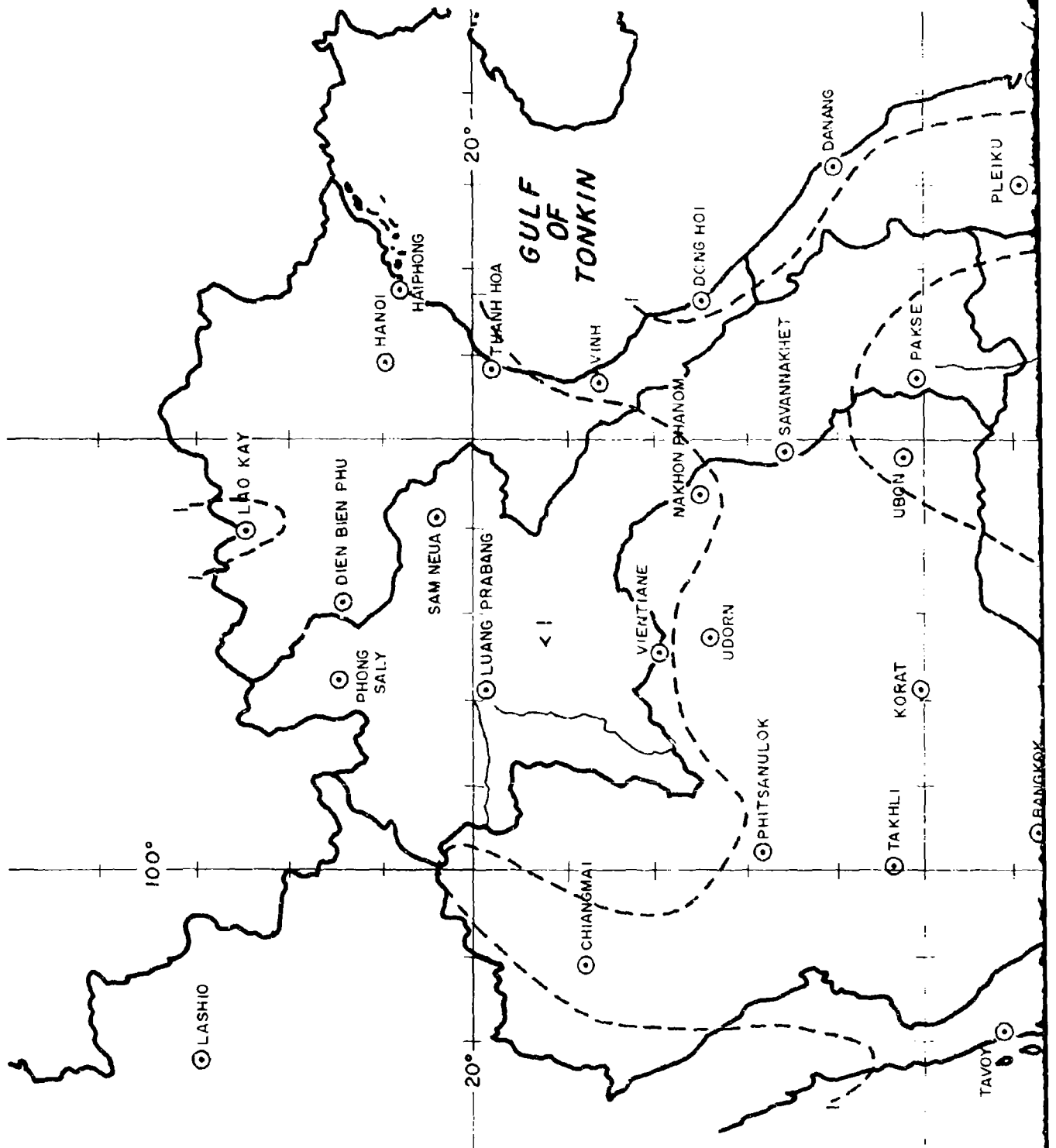


A

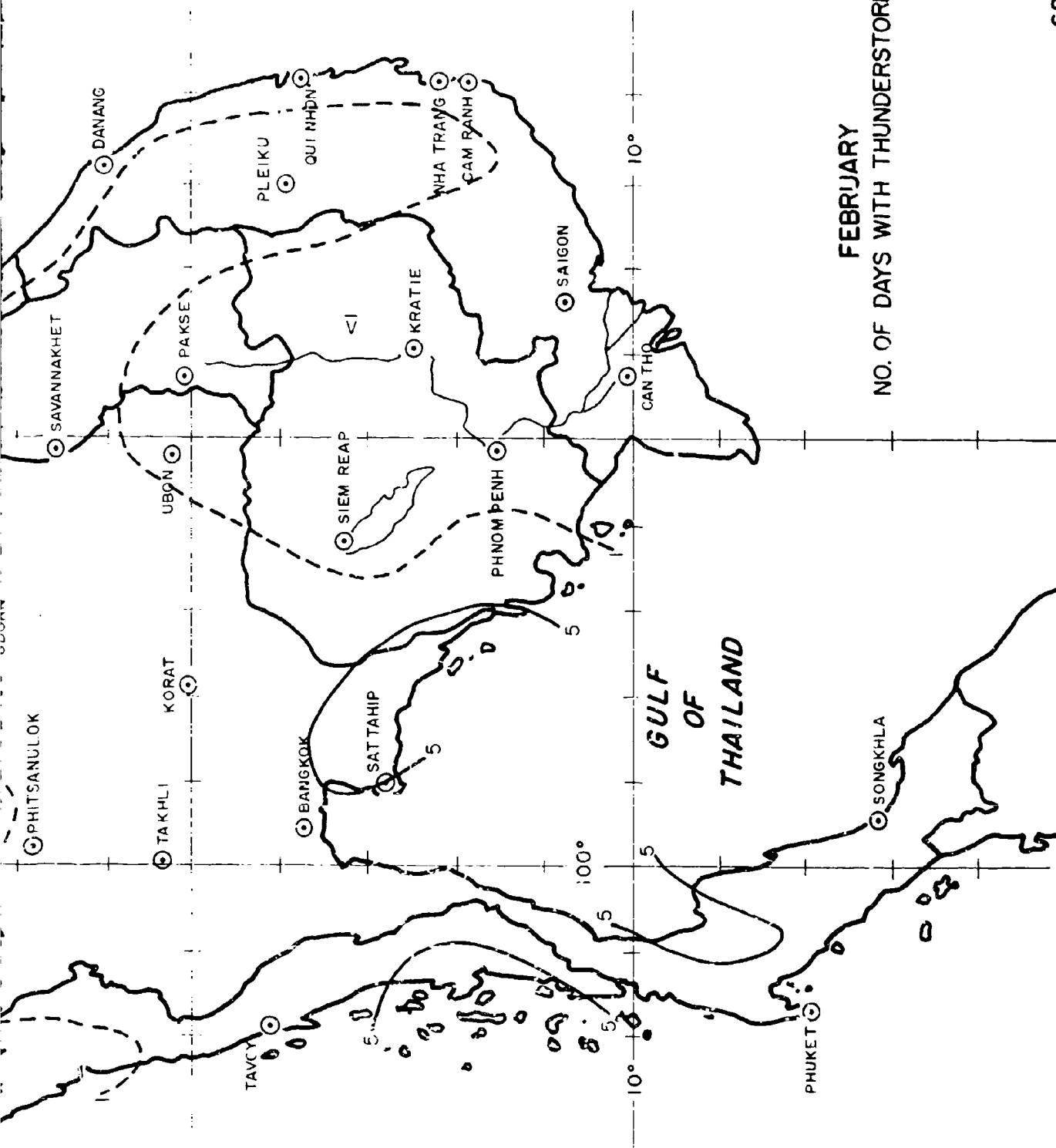


JANUARY
NO. OF DAYS WITH THUNDERSTORMS

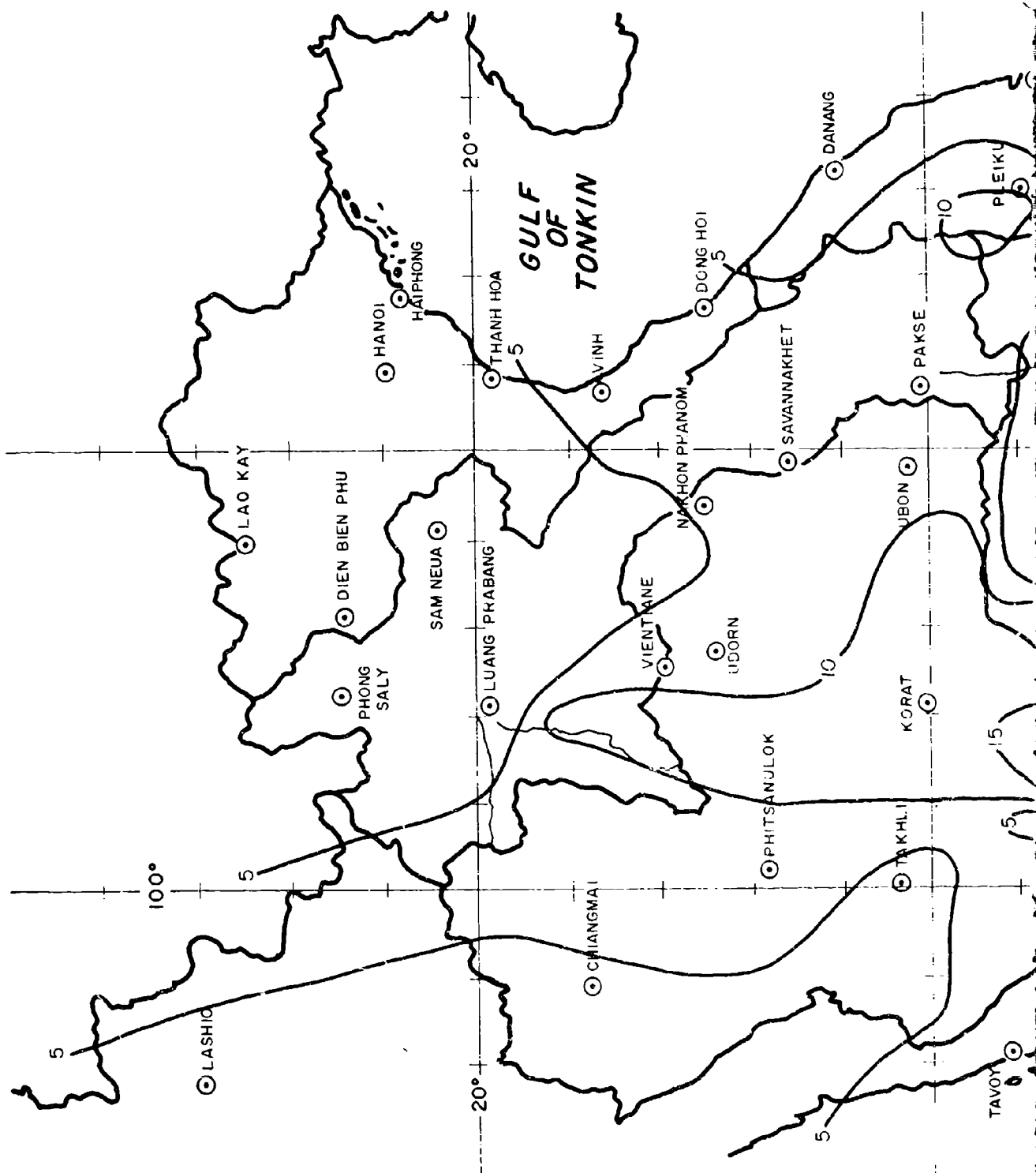
B

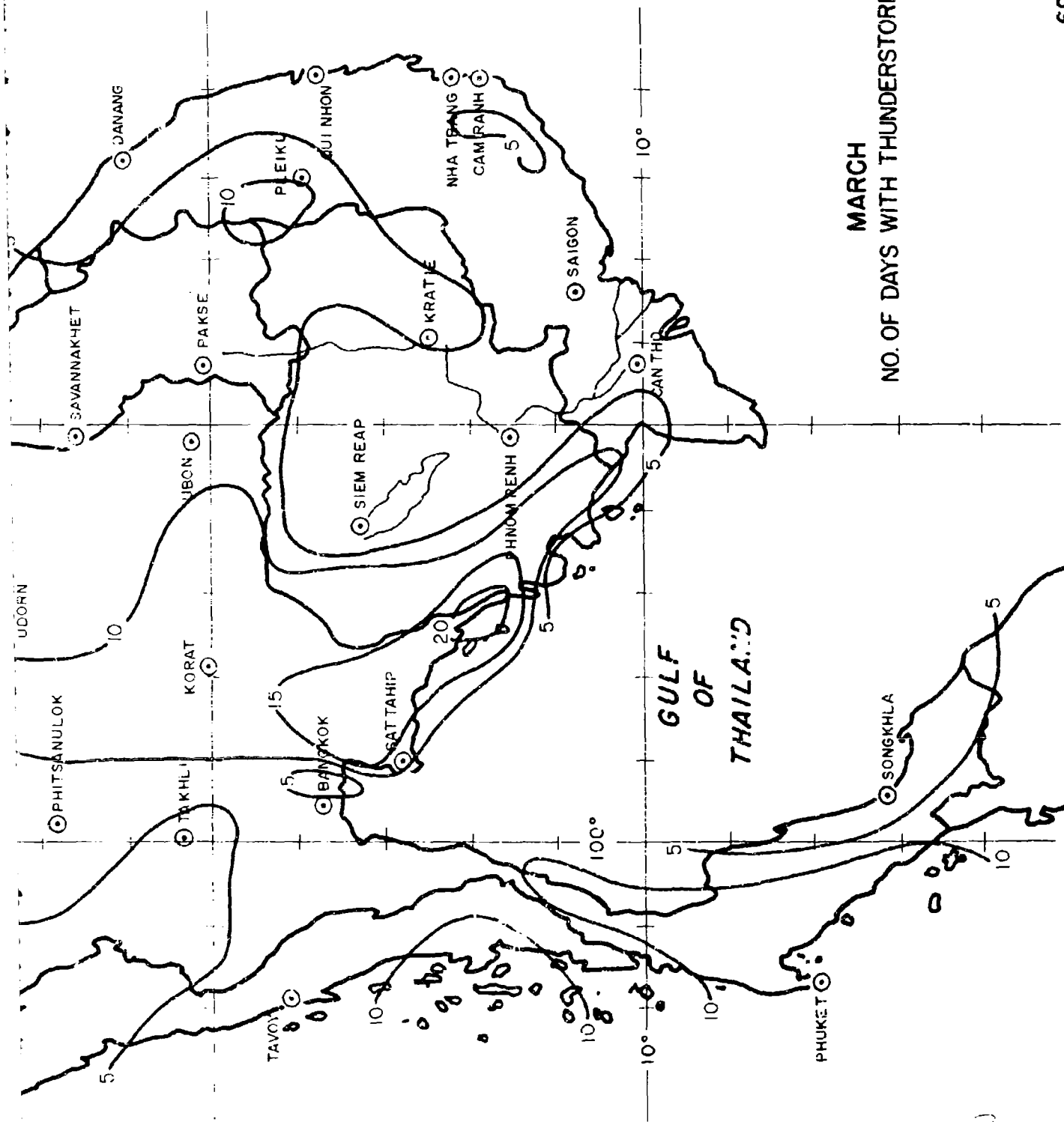


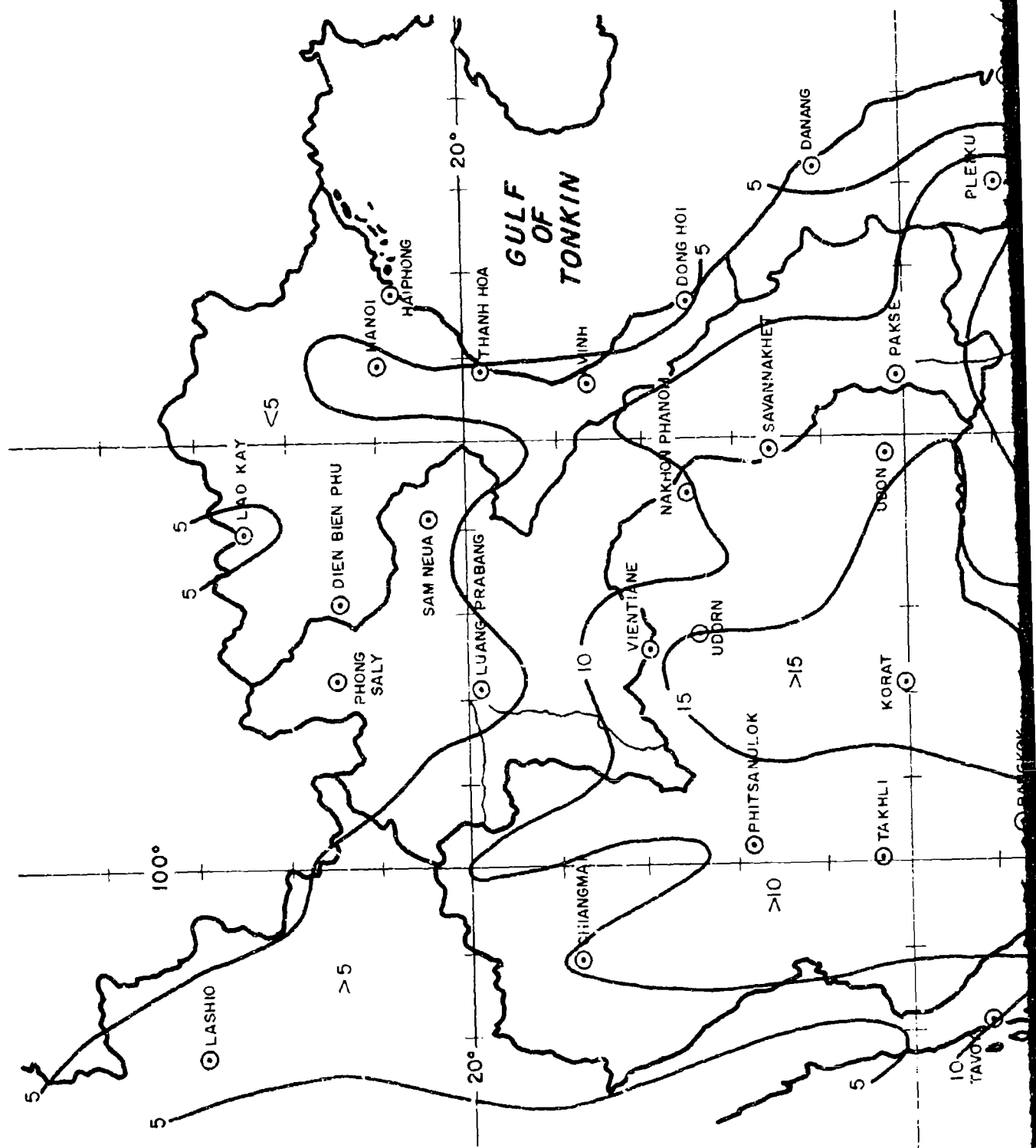
A

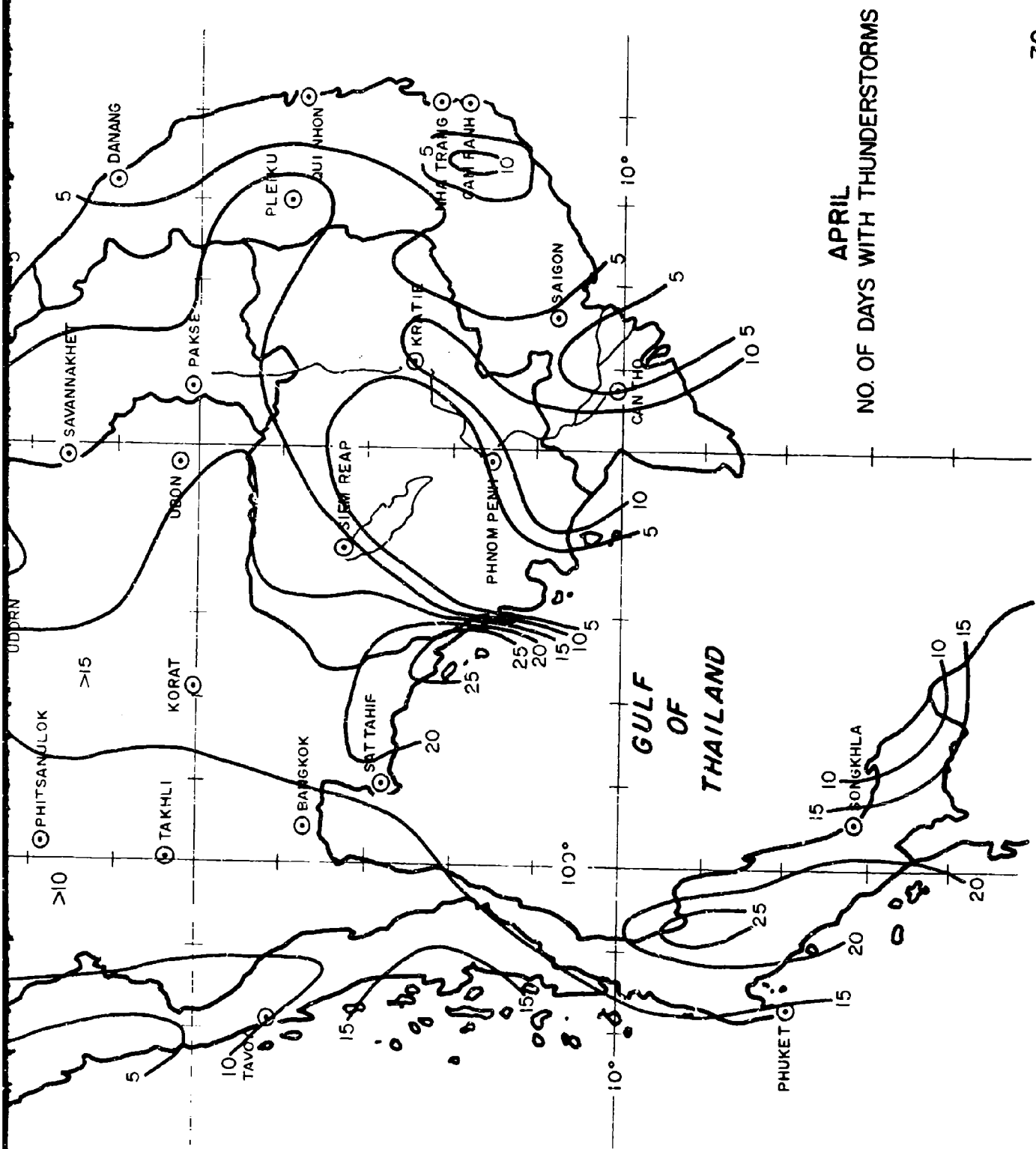


FEBRUARY
NO. OF DAYS WITH THUNDERSTORMS

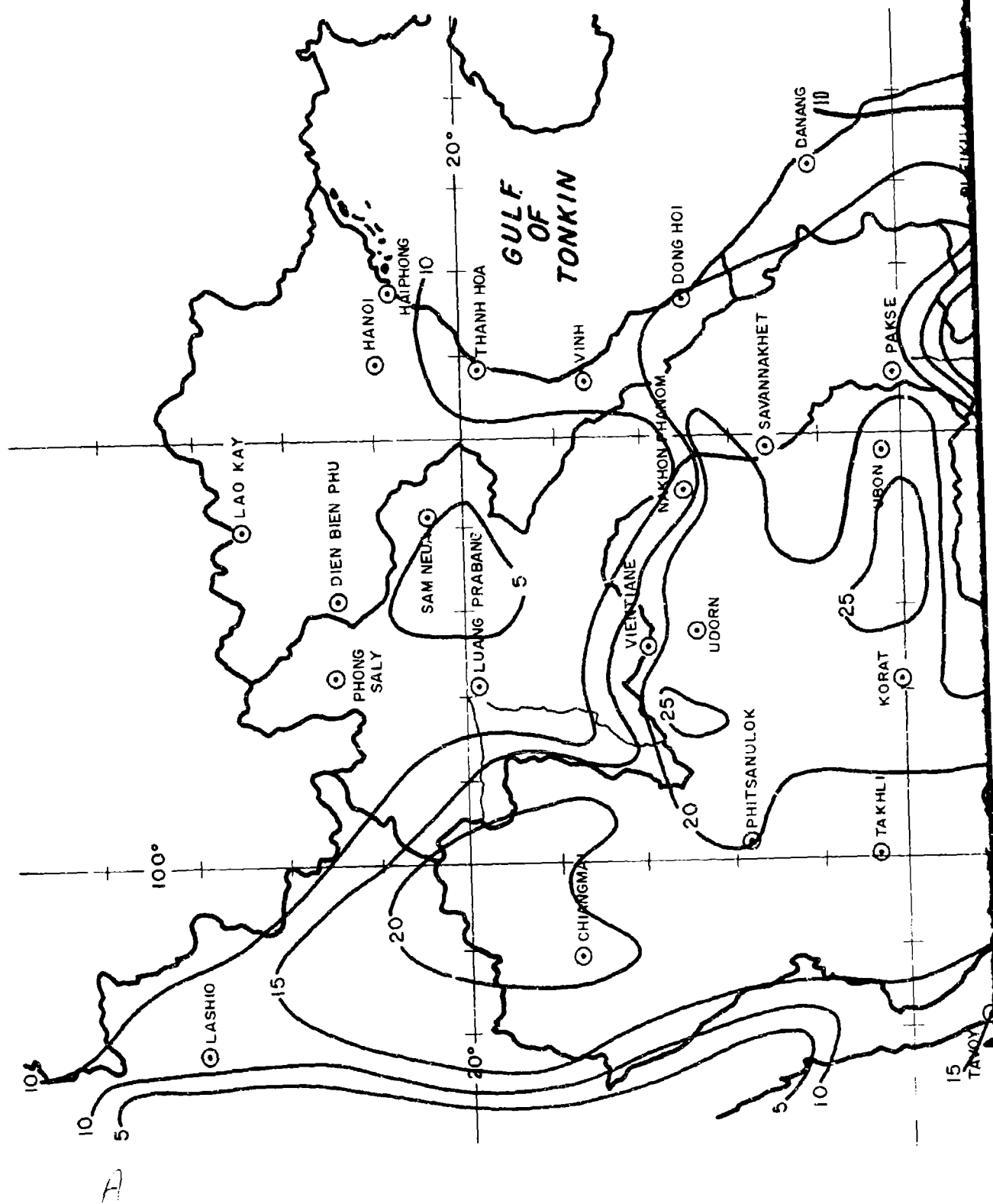


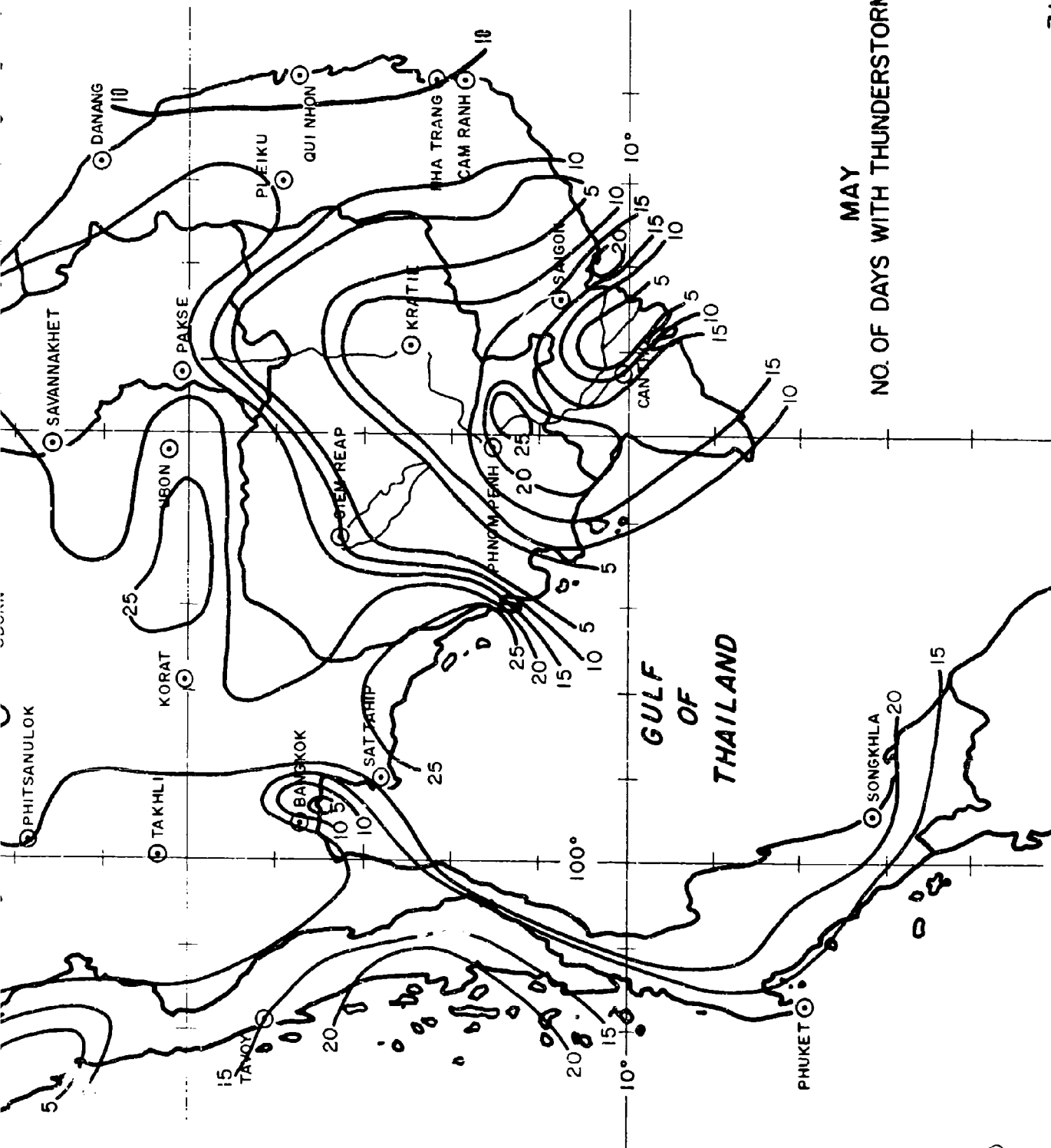




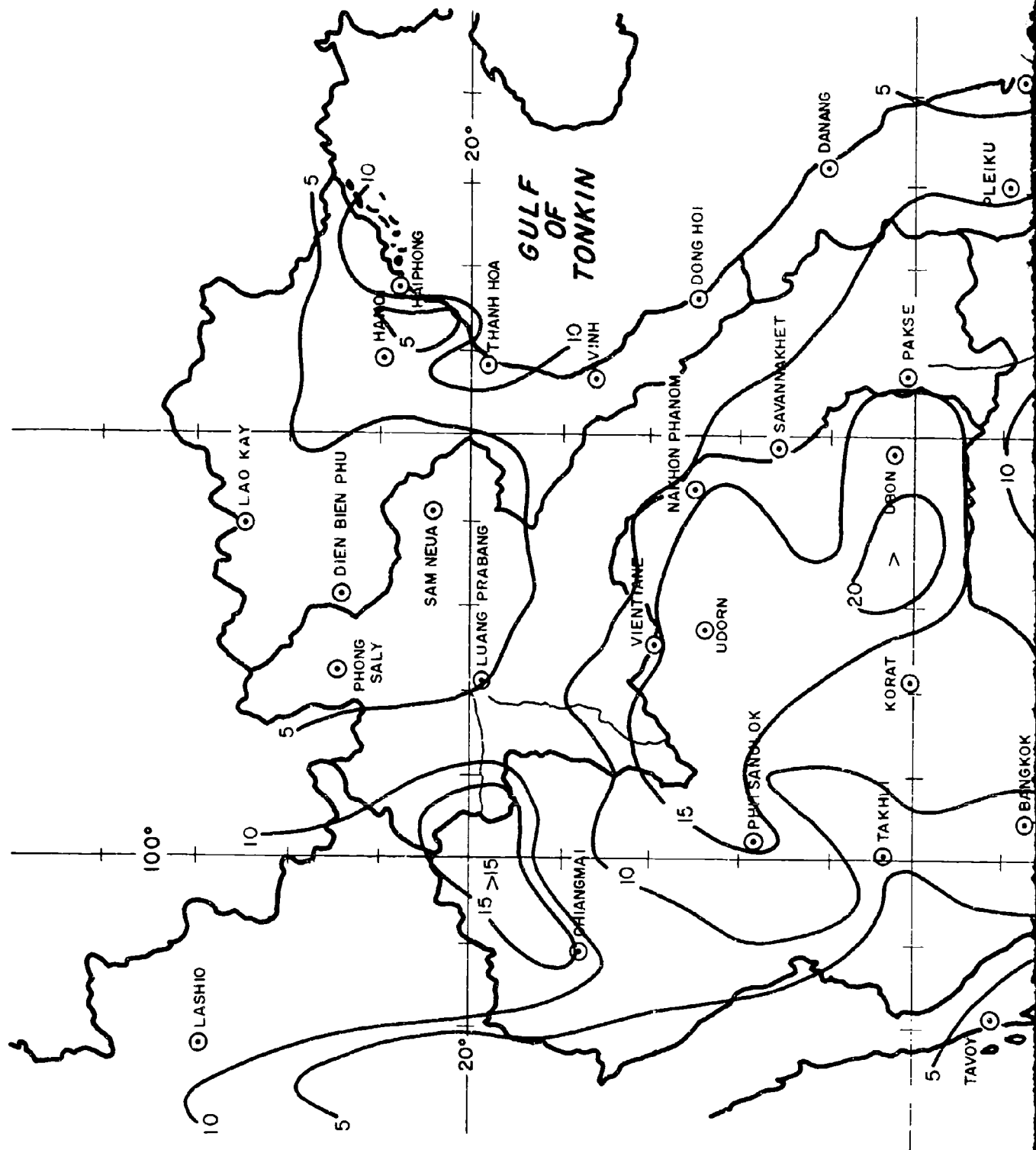


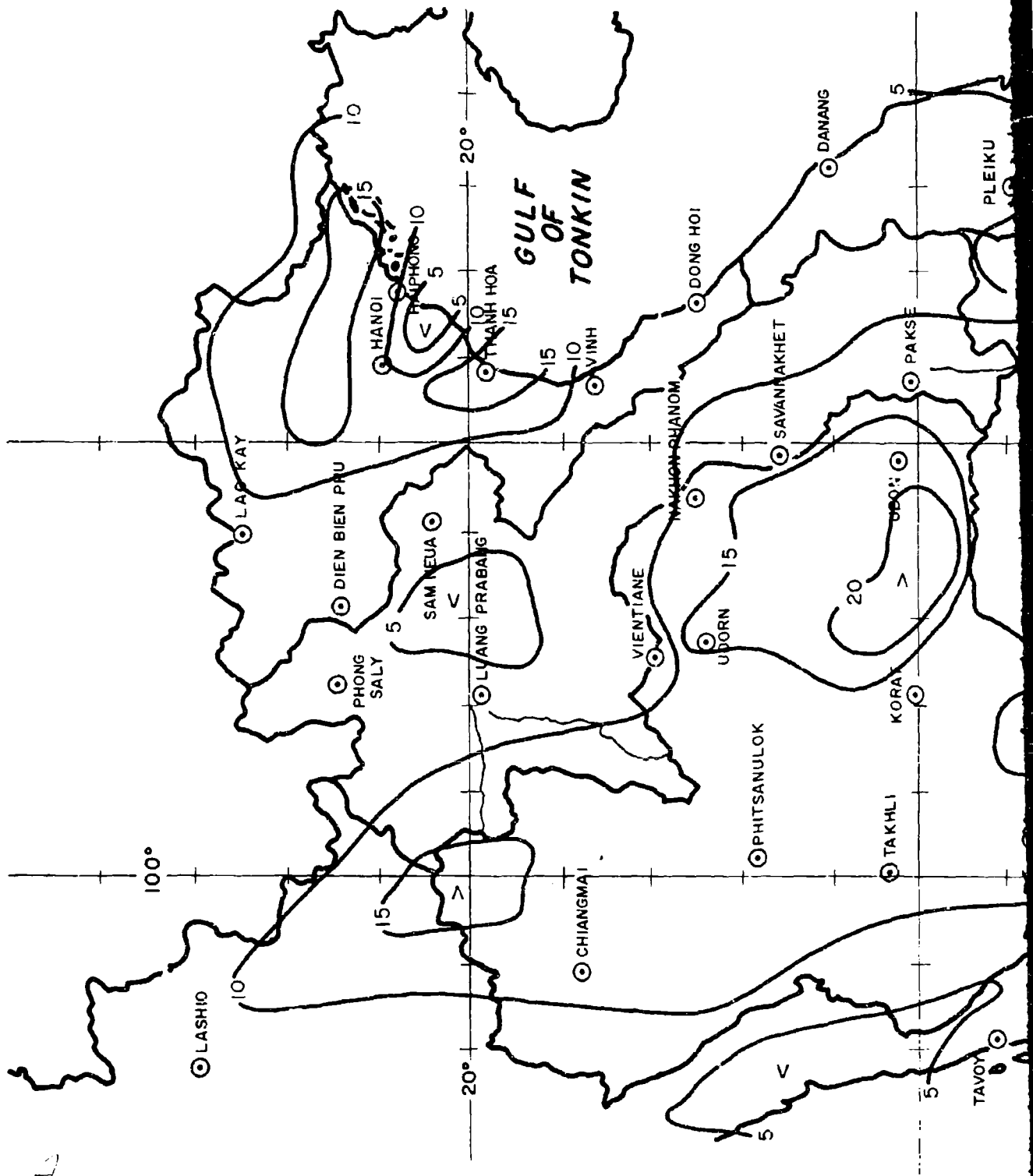
APRIL
NO. OF DAYS WITH THUNDERSTORMS

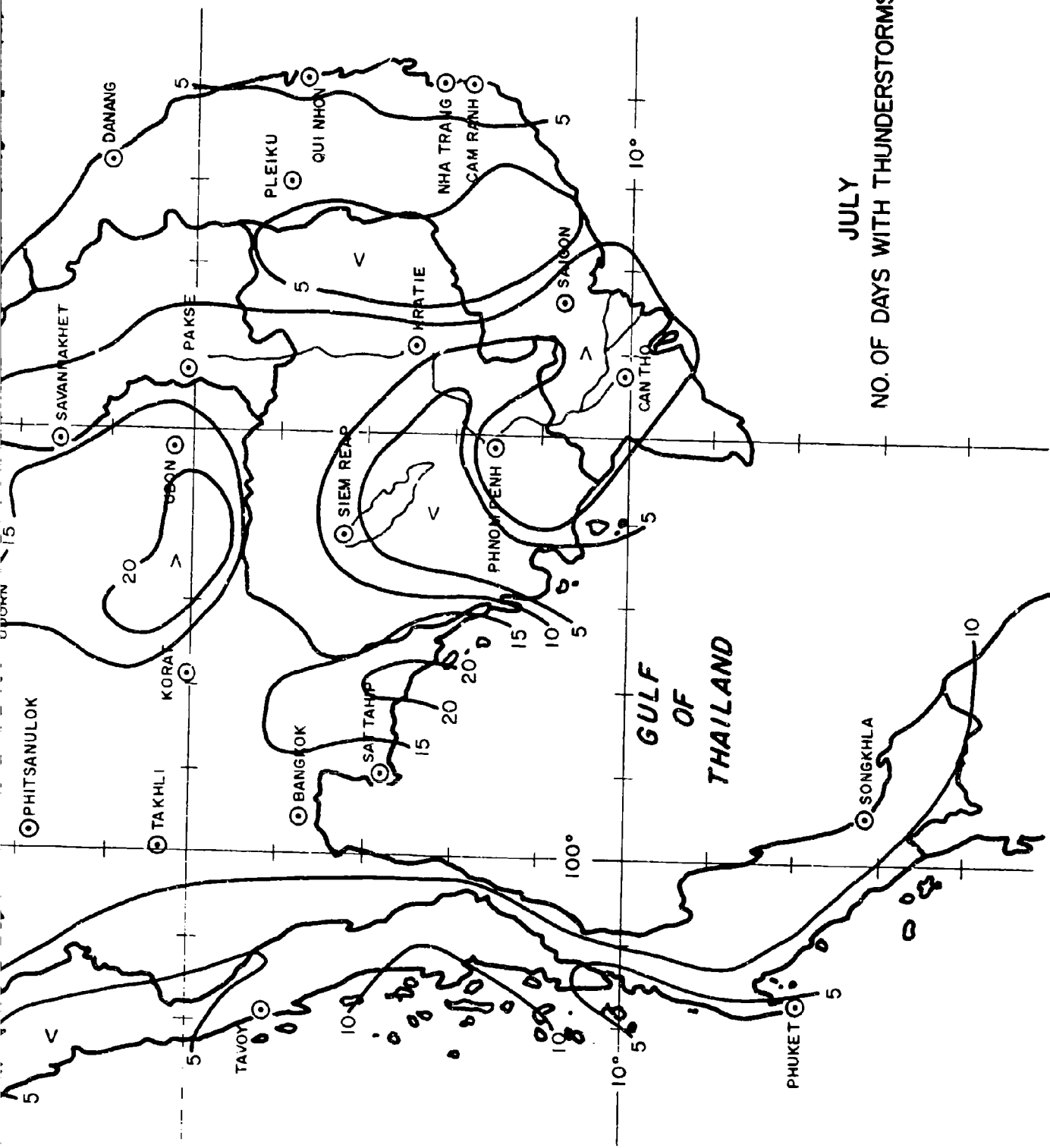




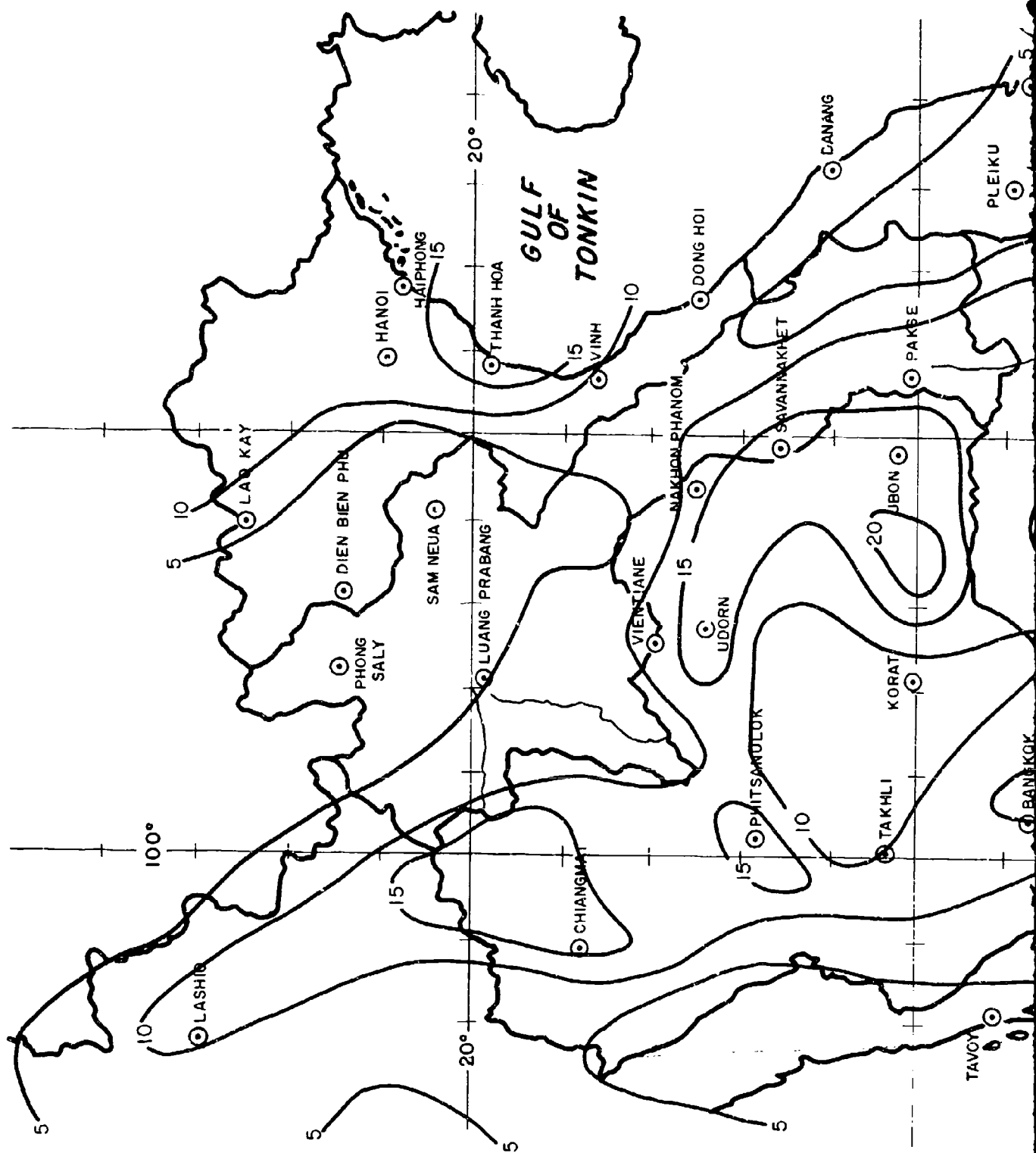
MAY
NO. OF DAYS WITH THUNDERSTORMS

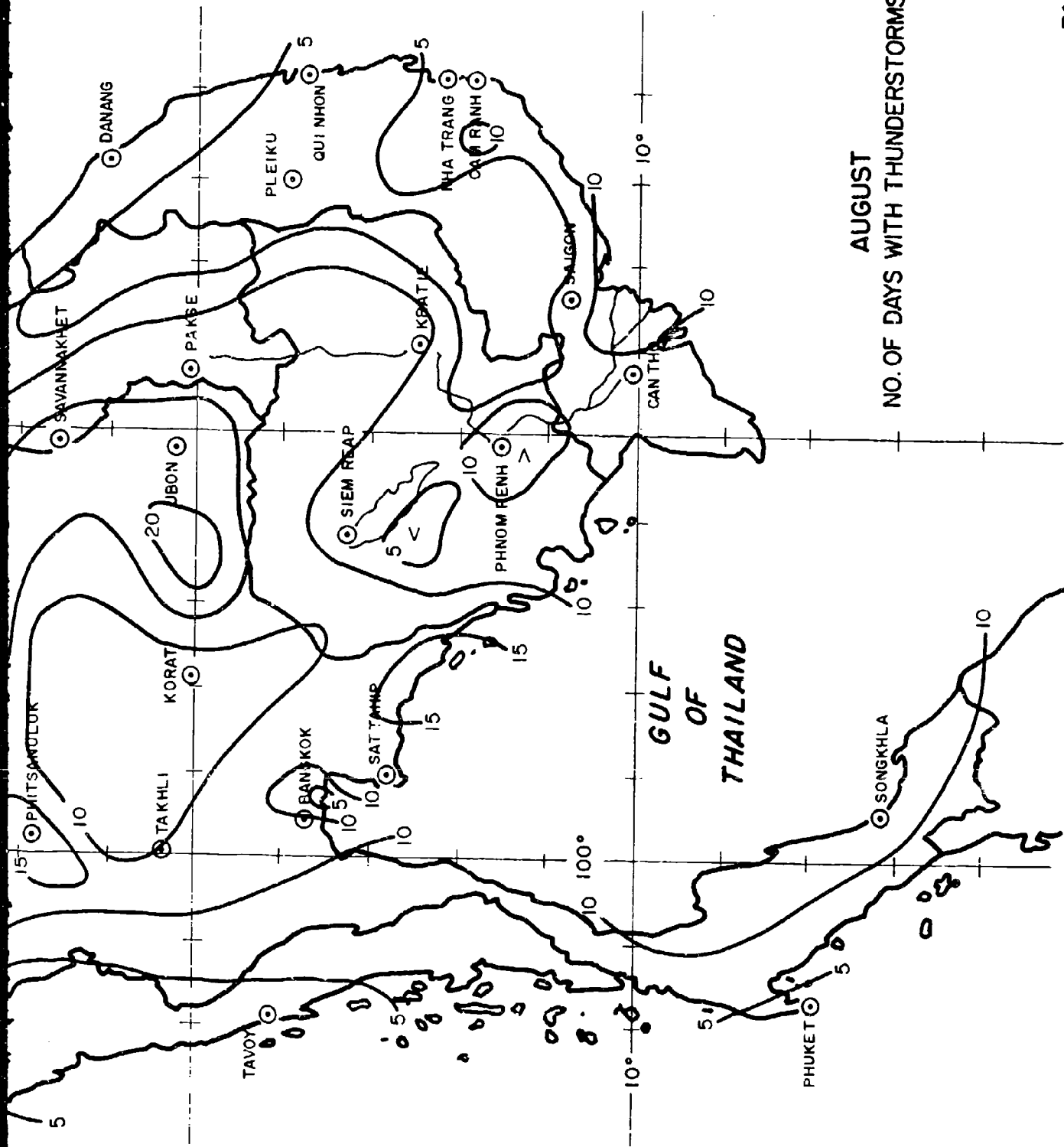




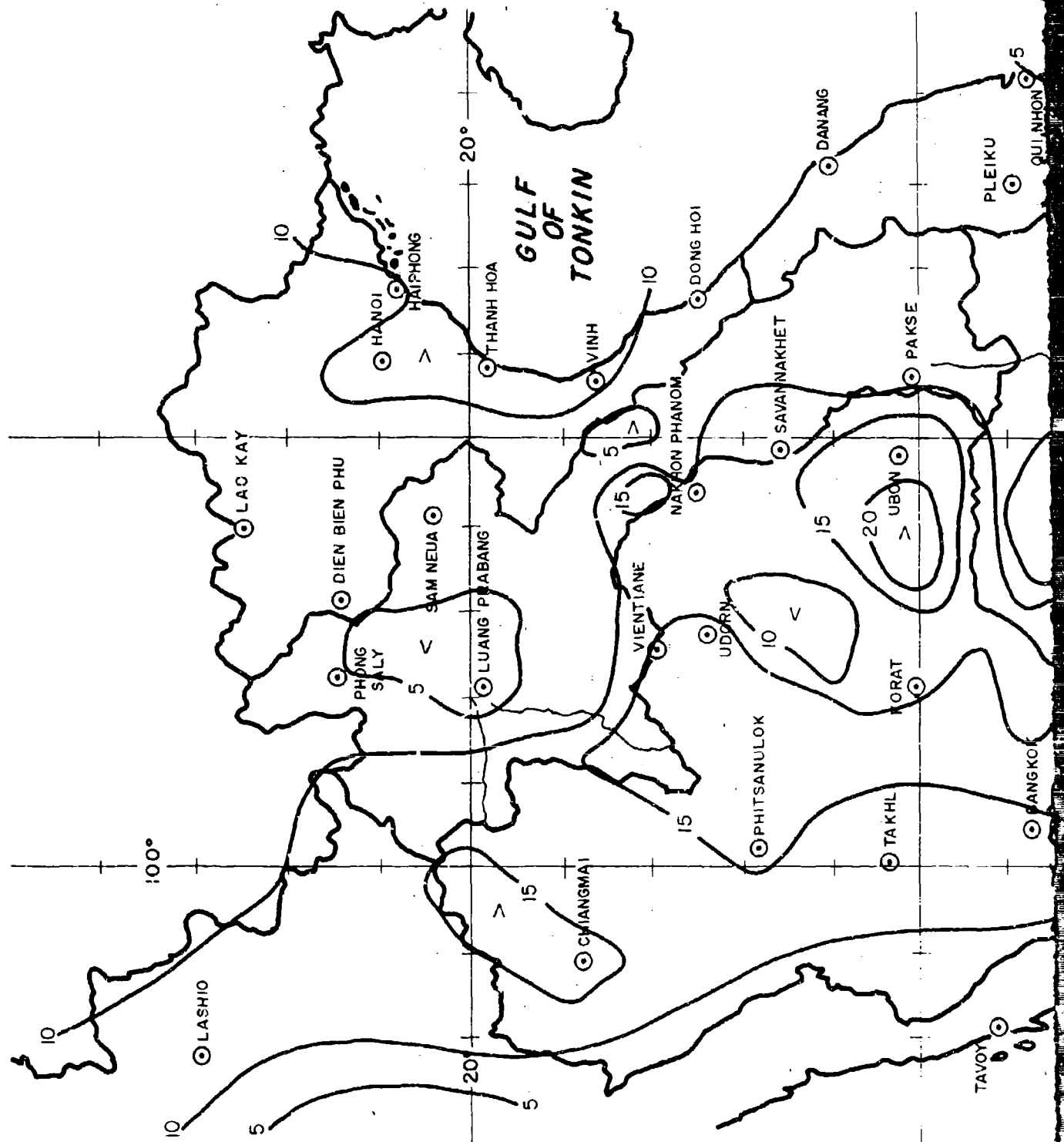


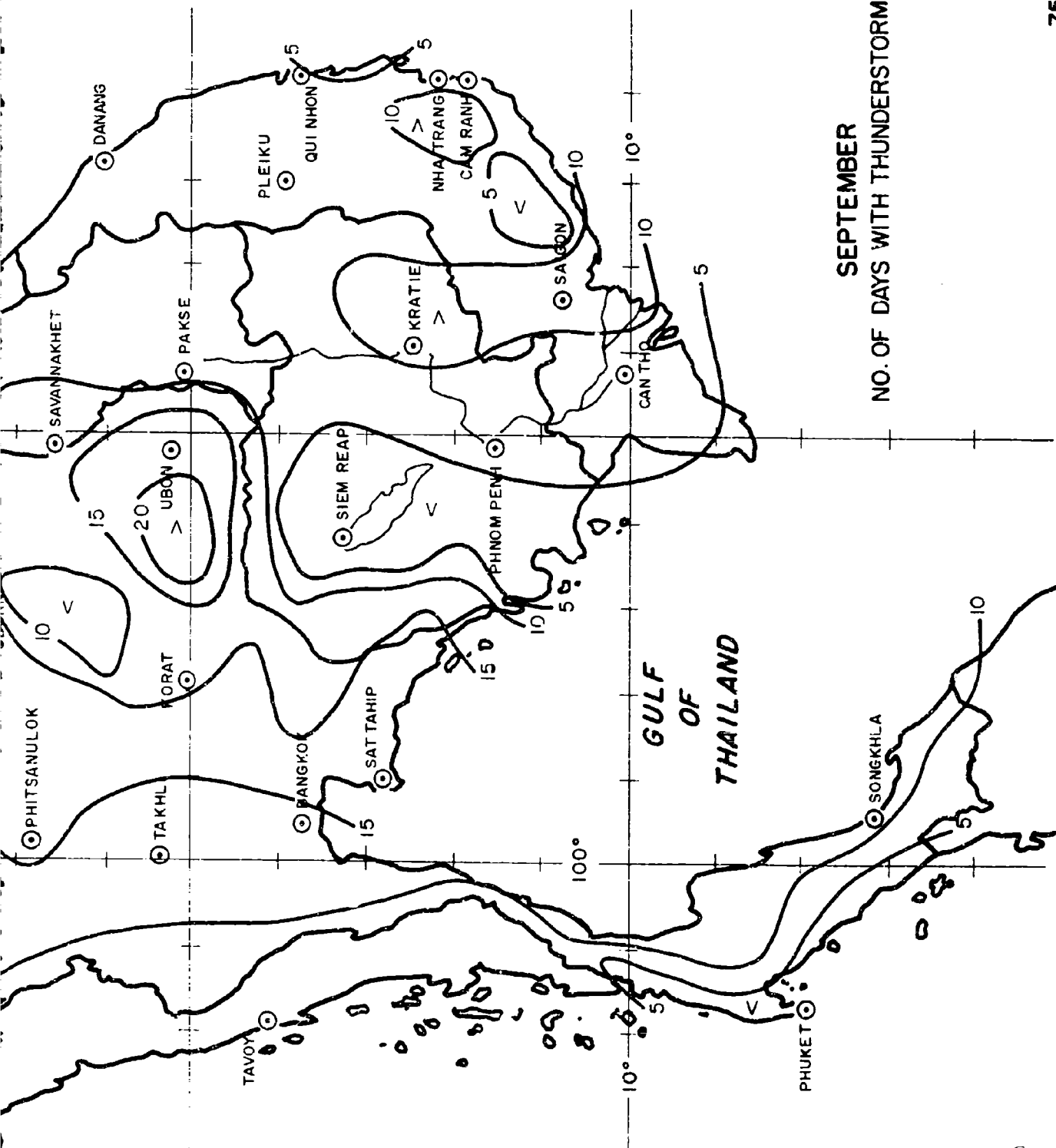
JULY
NO. OF DAYS WITH THUNDERSTORMS



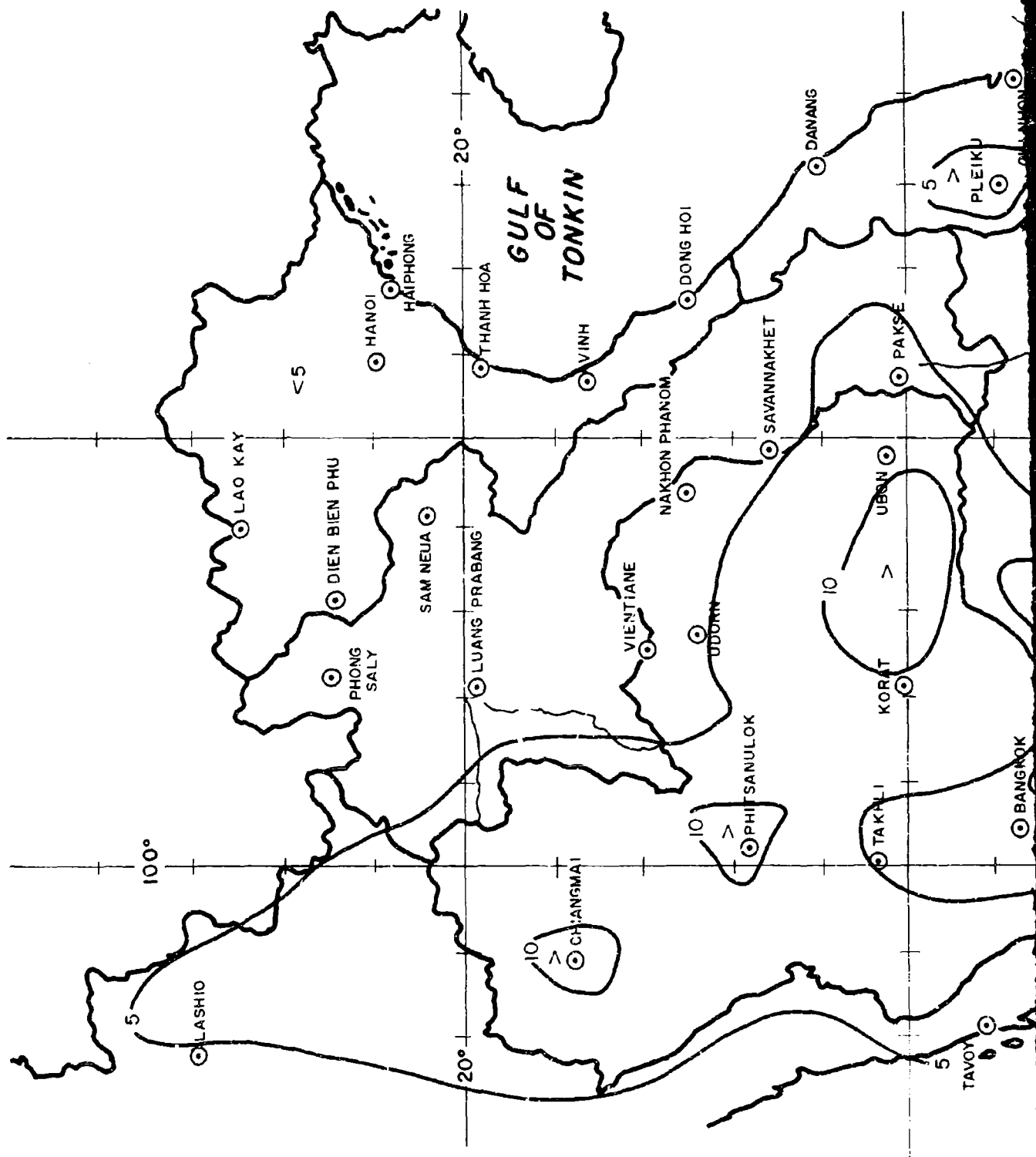


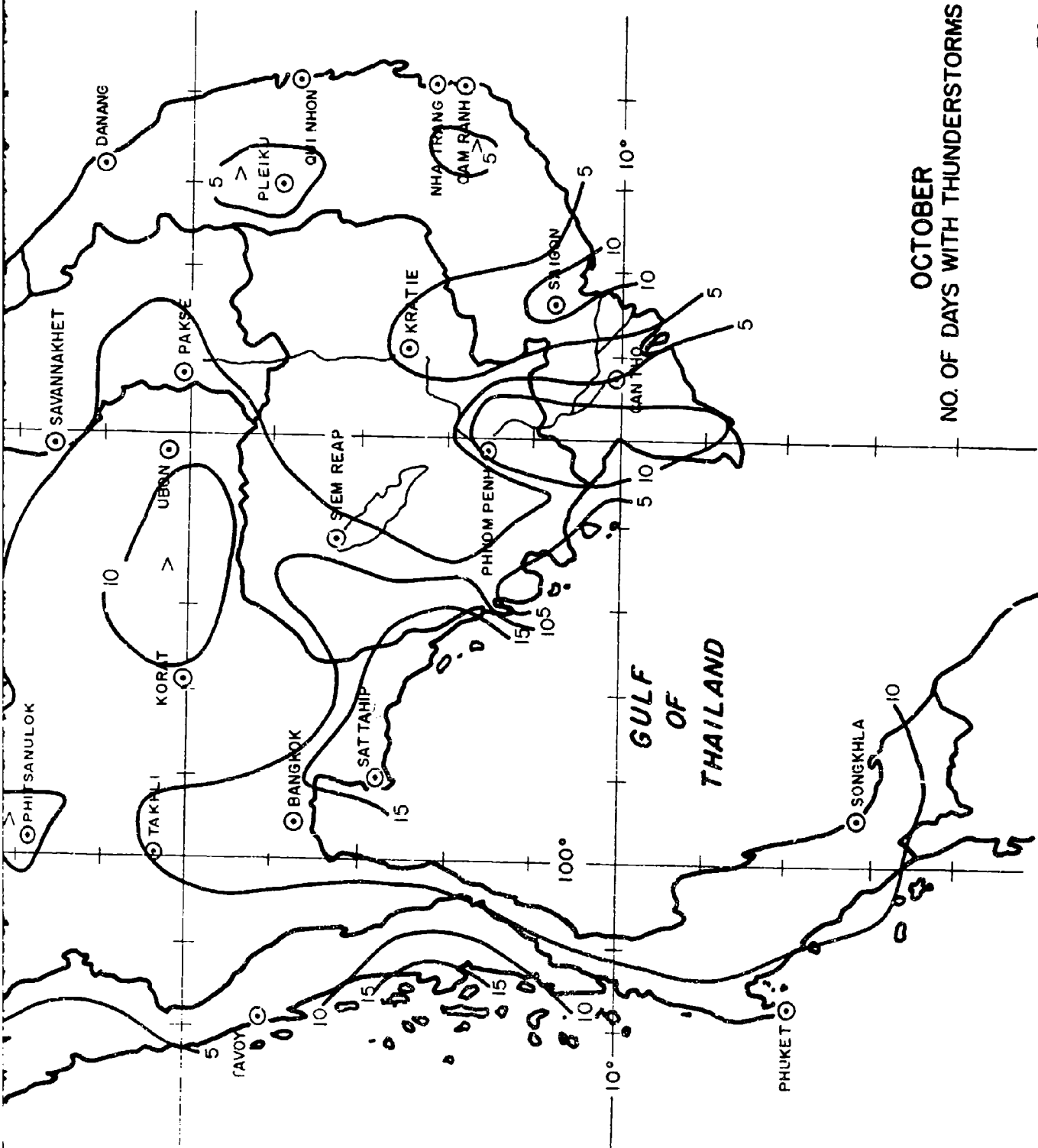
AUGUST
NO. OF DAYS WITH THUNDERSTORMS



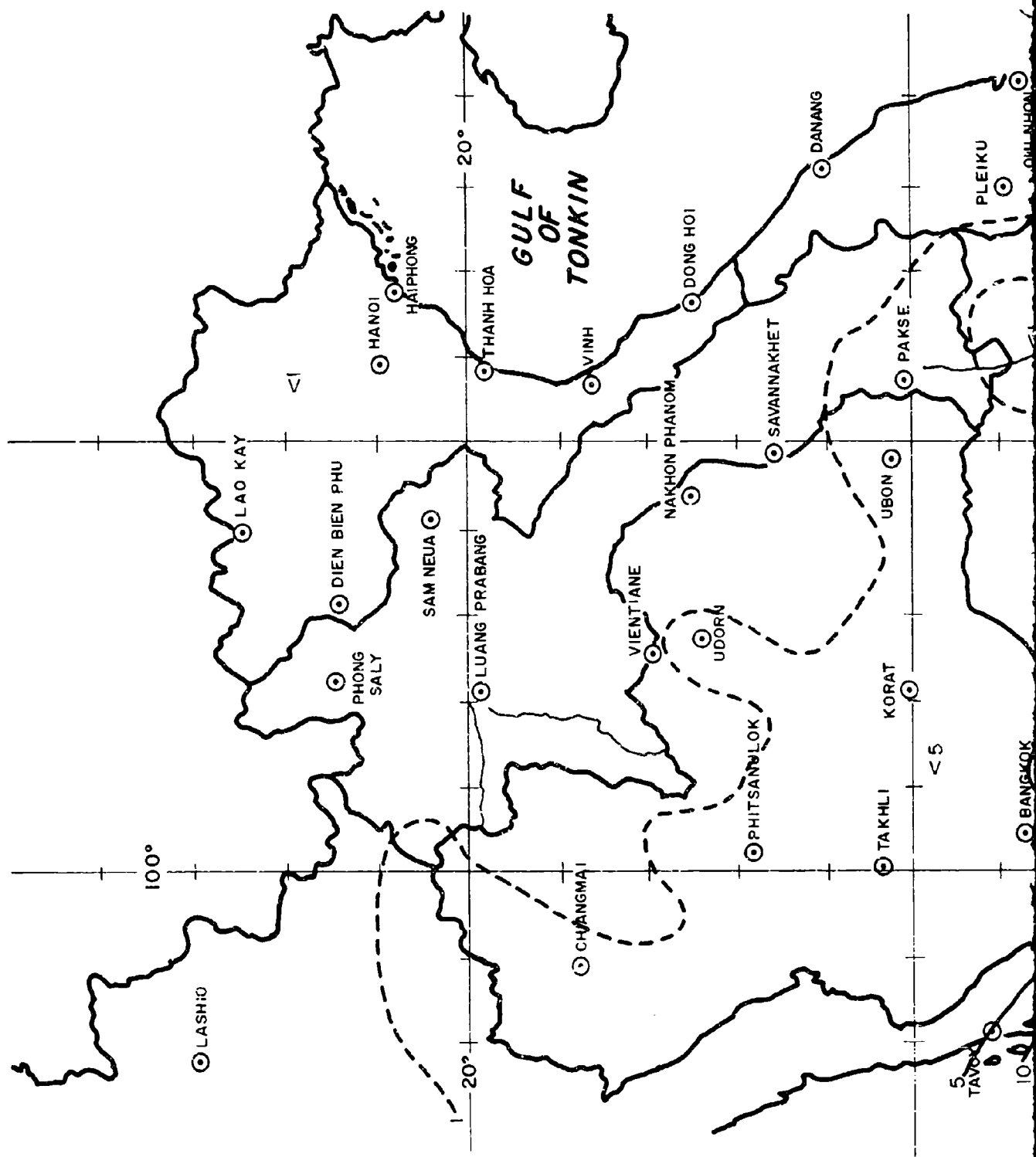


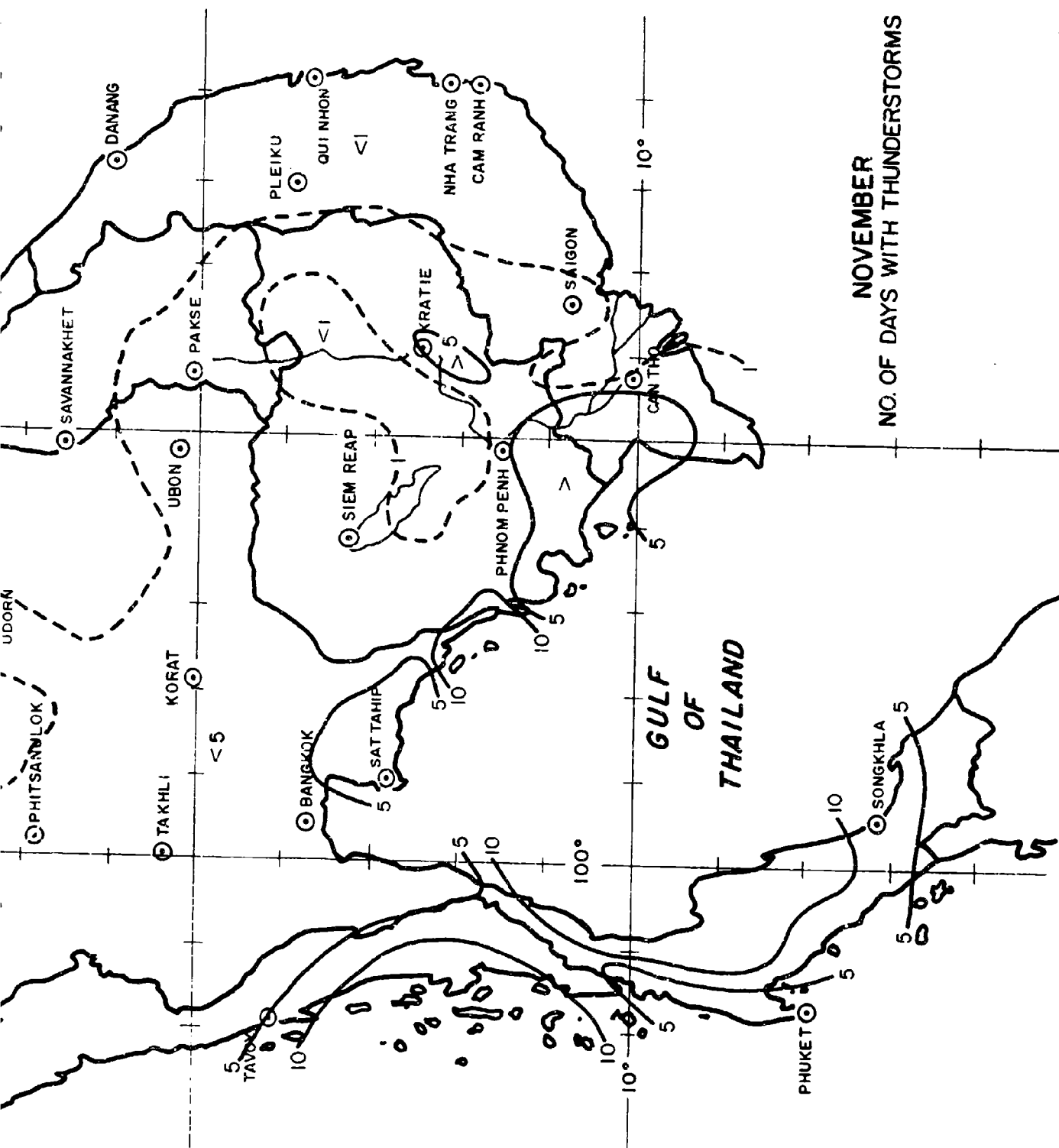
SEPTEMBER
NO. OF DAYS WITH THUNDERSTORMS





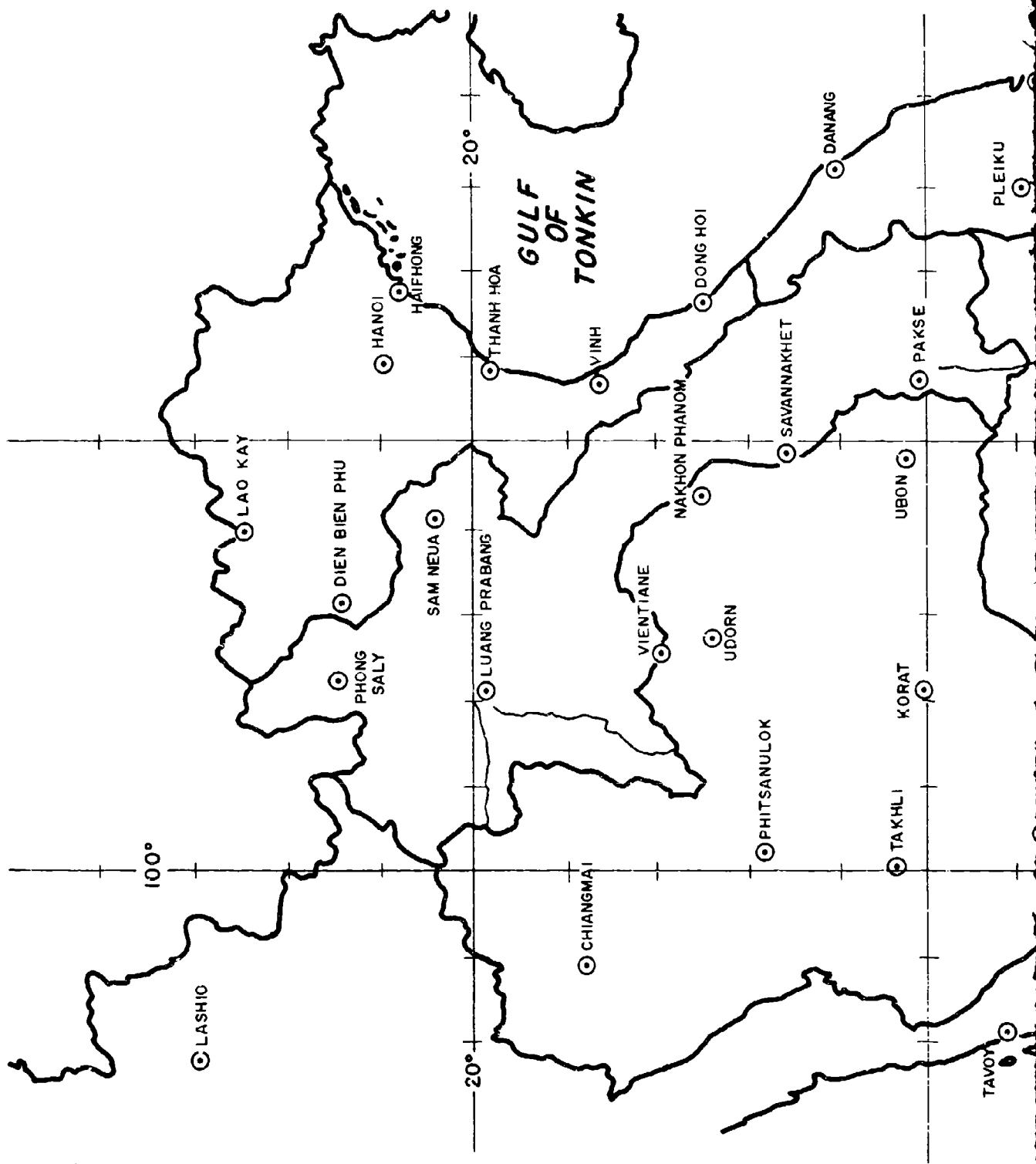
OCTOBER
NO. OF DAYS WITH THUNDERSTORMS



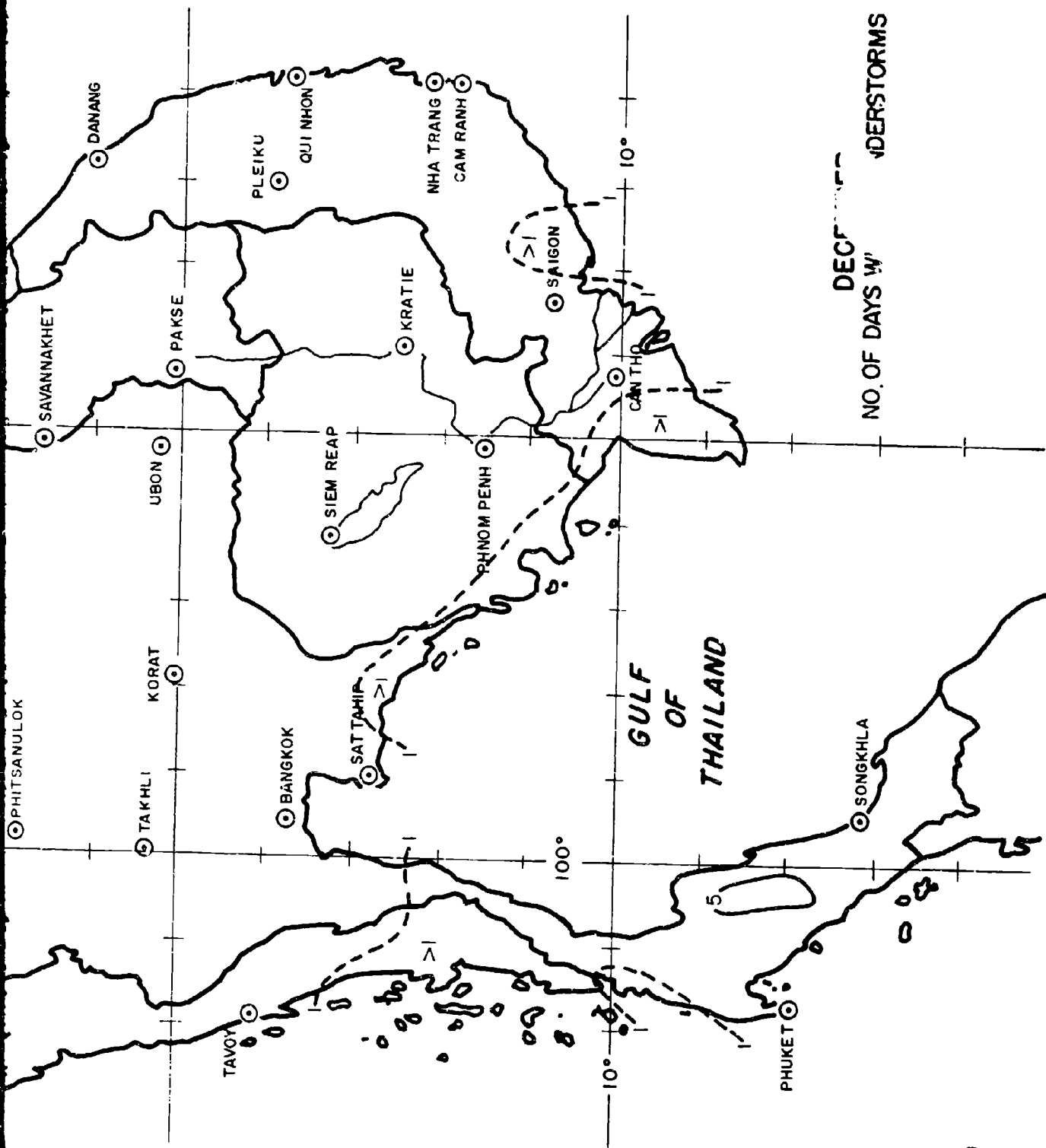


NOVEMBER
NO. OF DAYS WITH THUNDERSTORMS

B



H



DEC
NO. OF DAYS W' THUNDERSTORMS

B

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 1st WEATHER WING (MAC)
APO SAN FRANCISCO 96553



RECEIVED

OCT 28 1970

INPUT SECTION
CLEARINGHOUSE

REPLY TO
ATTN OF: DNC (CMSgt Dee/443019)

SUBJECT: Change 3, 1WWSS 105-11P

TO: All Recipients of 1WWSS 105-11P

1. The attached sheet contains two corrections which should be made in your copy of 1WWSS 105-11P (Southeast Asian Precipitation Analyses).
2. Both corrections are in the form of "paste-ons" and are to be made in the section on Thunderstorms. The larger of the two is a correction to the JUNE analysis (p 72) over the southern half of RVN. The smaller is a correction to be made to the NOVEMBER analysis (p 77) along the southwest coast of Cambodia.
3. Upon making the corrections, please annotate the page titles to reflect they were revised in September 1970 (Rev 9/70).

FOR THE COMMANDER

Stanton R. Withrow

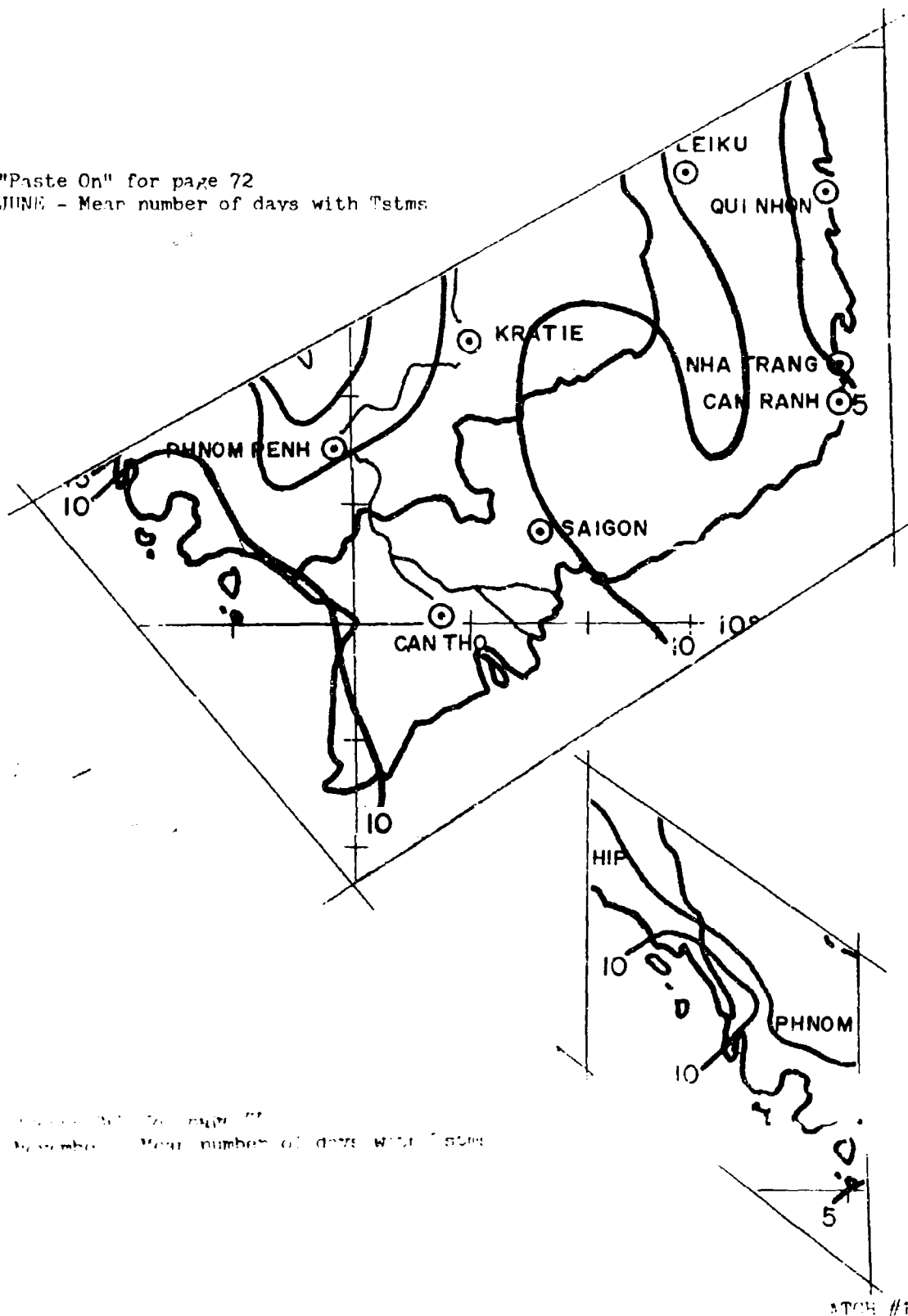
STANTON R. WITHROW, Lt Col, USAF
Chief, Aerospace Sciences Division

1 Atch
"Paste-Ons" to 1WWSS 105-11P

September 1970 Corrections to 105-11P (SEA Precipitation Analyses)

"Paste On" for page 72

JUNE - Mean number of days with Tsams



September 1970 Corrections to 105-11P

September - Mean number of days with Tsams

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 1st WEATHER WING (MAC)
APO SAN FRANCISCO 96553



REPLY TO
ATTN OF: DMC (CMSgt Dec/443019)

25 January 1971

SUBJECT: Minor Corrections to 1 WWg Special Studies

TO: All Recipients of 1 WWg Special Studies

The following pen and ink corrections should be made in your copy(s) of the appropriate 1 WWg Special Study:

a. 1 WWgSS 105-12/2 (Ceiling/Visibility Atlas for SEA - 5000/5).

(1) Page 78 (Oct 1600L) - The closed "90" line in southwestern Cambodia should read "50". The "70" isoline enclosing Bangkok should read "90".

(2) Page 86 (Nov 1600L) - The "90" isoline running through Songkhla in the lower peninsula of Thailand should be "50".

(3) Page 91 (Dec 0700L) - Same as "2" above.

AD697751
b. 1WWgSS 105-11P (SEA Precipitation Analyses). Page 26 - Monthly Maximum Precipitation (Dec). In the Gulf of Tonkin the "5" label just north of Vinh should read "10".

c. 1WWgSS 105-11/1 (January Climate of SEA).

(1) Page 27 - insert "2" before all numerical values of ceiling and visibility. The last word in paragraph four should be "evening" instead of "morning".

(2) Page 52 (Fig 27) - "SARAH 1965" should read "VIOLET 1955".

d. 1WWgSS 105-11A - All 12 issues January through December. In Chapter 2 (Geographic Features), section 4 (RVN), last sentence of first paragraph - change "10761" to read "6524".

FOR THE COMMANDER

Stanton R Withrow

STANTON R. WITHROW, Lt Col, USAF
Chief, Aerospace Sciences Division